



Pioneers of Ecological Humanism

BRIAN MORRIS

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Brian Morris

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For my long-standing friends Peter Baynes and David Powell, both Mumford enthusiasts

Preface

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Preface

Throughout my life I have had three essential interests: intellectual interests, that is. The first is an absorbing fascination with *natural history* (ecology), and I have been exploring and enjoying natural landscapes and their wildlife since I was a boy. The second is *anthropology*. Although I was born and spent my early years in the Black Country, it was my good fortune to have eight youthful years working in Malawi as a tea-planter. I thus developed a deep fascination with the diversity of human cultures. Eventually, in my late thirties, I became an anthropologist. My third interest has been *anarchism*. This came about when I met, quite by chance at the age of twenty-nine, Bill Gate. He was an affable working-class bloke, rather large, bearded and Bakunin-like, and he introduced me to radical politics. I have been an anarchist – that is to say, a libertarian socialist – ever since. All my writings over the past forty years have, in one way or another, been interdisciplinary, as I have sought to bring these three interests together.

The three radical scholars discussed in this book have each, in different ways, deeply influenced my own thought. They were, like myself, interdisciplinary thinkers, for they attempted to integrate anthropology and the study of human culture, ecology and radical politics. They were truly pioneer social ecologists, and key figures in the emergence of the ecology movement in the 1970s. And yet, sadly, they have largely been forgotten and are hardly mentioned in the halls of academia. They suffer, like Erich Fromm, from what may be described as ‘popular acclaim and academic neglect’.

This book aims to affirm their intellectual stature and continuing relevance with respect to current debates concerning ecological issues, and their place in developing an alternative to what Lewis Mumford described as the ‘megamachine’ of industrial capitalism.

Finally, I would like to thank Emma Svanberg for typing up my notes, and Jonathan Ingoldby for his editorial input and helpful suggestions.
Brian Morris August 2011

Ecological Humanism: an Introduction

In the introduction to his Russell Memorial lecture, Noam Chomsky mentions a Japanese farmer who had a wall poster which read:

Which road is the correct one, which is just? Is it the way of Confucius, of the Buddha, of Jesus Christ, Gandhi, Bertrand Russell? Or the way of Alexander the Great, Genghis Khan, Hitler, Napoleon, President Johnson?

(1972: 10)

It is doubtful if Russell, a passionate sceptic and libertarian all his life, would have been entirely happy being associated with reactionaries like Confucius, or religious mystics like the Buddha – but this extract clearly and unambiguously depicts the false dilemma with which we are presented as soon as we begin to discuss ecology. Either we have to side with religious mystics and neo-pagans and cultivate a ‘sacramental’ or spiritual attitude towards nature, or we are alleged to align ourselves with the positivist tradition and mechanistic philosophy, with aggressive imperialism, industrial capitalism and agribusiness. In innumerable ecological texts the choice we are given is thus between either mechanism or spiritualism, either mammon (industrial capitalism) or God (religion), between Cartesian philosophy with its dualistic metaphysics and its emphasis on the technological mastery of nature, or so-called ‘spiritual ecology’ which embraces some form of religious metaphysics – either neo-paganism, theism, pan(en)theism or mysticism. For example, in a recent text, which purports to offer a ‘deep ecological vision’, the choice we are presented with is either the ‘prison house of urban industrial civilization’ with its accompanying ideologies, or ‘primitivism’ – entailing the wholesale rejection of technology, the affirmation of a hunter-gathering existence and the embrace of neo-paganism – tribal animism (Watson 1999).

What is lost in all this is that there is another ecological tradition that repudiates both mechanism *and* spiritualism, that while critiquing industrial capitalism and the megamachine, along with its anthropocentric and dualistic paradigm, does not go to the other extreme and embrace primitivism and some form of religious metaphysic. This is the tradition of organic or ecological humanism, a tradition that is particularly associated with three pioneer social ecologists: Lewis

Mumford, René Dubos and Murray Bookchin.

This book aims to provide a critical introduction to the ecological philosophy of these three important public intellectuals. Sadly neglected by environmental philosophers, they are the true pioneers – not the likes of Bateson and Capra – in the continuing development of a new philosophy of nature, an ecological worldview, in the postwar years.

In this introduction I shall briefly review some of the essential themes that emerge from the ecological writings of Mumford, Dubos and Bookchin. Like many other scholars these social ecologists stress that there is an essential ‘paradox’ at the heart of human life, for there is an inherent duality in social existence, in that humans are an intrinsic *part* of nature, while at the same time, through our conscious experience and our human culture, we are also in a sense *separate* from nature. Mumford speaks of humans as living in ‘two worlds’ – the natural world, and what all three scholars, following Cicero, call ‘second nature’ – human social and symbolic life which is ‘within’ first nature. Humans thus have a dual existence, in that they are simultaneously contemplative and active beings, both ‘constituting’ (giving cultural meaning to) and being actively engaged in the natural world.

Fully embracing Darwin’s evolutionary theory, Mumford, Dubos and Bookchin emphasize that humans are a product of natural evolution, and that there is therefore no radical dichotomy between humans and the natural world – specifically, other life forms. All three scholars thus repudiate Cartesian philosophy, with its dualistic metaphysics – implying a radical dichotomy between humans and nature, the body and the mind – along with its atomistic epistemology, its anthropocentric ethic, which envisages the technological mastery of nature, as well as its mechanistic paradigm. Following Darwin, they emphasize that the world – nature – is not a machine but an evolutionary process, which can only be understood by an organic, developmental way of thinking and a holistic (relational) epistemology. This Bookchin describes as ‘dialectical naturalism’. All three scholars therefore stress the crucial importance of historical understanding, especially with regard to biology. Dubos indeed affirms that nothing in biology makes sense except in the context of history. They are therefore critical of much social science which tends to emphasize a radical dichotomy between culture and nature, and, in over-emphasizing the autonomy of culture, to even ignore biology entirely in the understanding of social life. Mumford, Dubos and Bookchin are, then, all committed evolutionary naturalists.

But all three scholars are equally critical of all forms of reductive materialism, which tend to downplay the uniqueness of the human species, our 'humanness', and they stress in particular the fundamental importance of human culture – technology, the arts, symbolism, philosophy, science – which makes humans a unique species. Throughout their writings strident criticisms are therefore made of social Darwinism, neo-Malthusian doctrines, behaviourism and sociobiology. What they also stress is that humans, like all other organisms, do not simply adapt to environmental conditions, but have creative agency, and Mumford indeed describes humans as the 'unfinished animal', while Dubos, emphasizing that humans are dialectically linked to nature, notes that human life tends to 'transcend' its earthly origins. Yet their humanism also involves putting an equal stress on the autonomy and wellbeing of the human personality, and the development of an ethical naturalism that critiques both cultural relativism and religious absolutism, and emphasizes a universal ethics that recognizes the sociality and unity of humankind.

Remaining true to the Enlightenment tradition they therefore emphasize the need to uphold its fundamental values – namely, liberty and the freedom of the individual, equality and social justice, cosmopolitanism and tolerance, and the need to develop a radical form of democracy. They acknowledge that there is a need to defend this tradition as against its neo-romantic detractors (cf. Bronner 2004). The key concepts of Mumford's, Dubos' and Bookchin's evolutionary humanism are therefore wholeness, balance, diversity, autonomy and mutualism. They particularly express the need to sustain both unity and diversity (personal, social and ecological), both human subjectivity and social cooperation, both the flourishing of humans and that of the biosphere, its landscapes and its life forms. Reacting against the social Darwinian emphasis on conflict, struggle and the 'survival of the fittest', as well as against the atomism inherent in Cartesian philosophy and mechanistic science, Mumford, Dubos and Bookchin all stress the importance of mutual aid and symbiosis in the understanding of the biosphere, as well as of human life. All three men thus warmly embrace and pay tribute to the ecological vision of the Russian anarchist-geographer Peter Kropotkin (see Morris 2004). This meant that they were not only critical of Cartesian dualism but of the Baconian scientific ethic that envisages the human domination of nature, and the treatment of the natural world simply as a human resource.

There has, however, been a tendency among some scholars to suggest rather misleadingly, if not bizarrely, that 'humanism' is simply a secular version of the Christian faith. That 'humanism' posits a dualistic metaphysic that not only implies a radical 'gulf' between humans and other life forms, but suggests that

humans have been given dominion over the earth, expressed in their technological mastery of nature. By such criteria Mumford, Dubos and Bookchin are not 'humanists'! Scholars such as Ehrenfeld (1978) and Gray (2002) also offer as a rather misanthropic portrait of humans as being inherently destructive and predatory animals, and thus in need of salvation or redemption via some religious faith or mystique.

But Mumford, Dubos and Bookchin, like Julian Huxley (1964) repudiate such misanthropic and anti-humanist sentiments, affirm the continuity of humans with the rest of nature, particularly other life forms (embracing an evolutionary perspective) and not only deny that humans can be the 'masters' of nature, but offer powerful critiques – long before Gray – of the Baconian ethic regarding the human 'dream' of mastering nature. Such a Faustian attitude, Dubos argued, was not only misplaced and dangerous, but contrary to biology.

Both Mumford and Dubos were in many respects religious thinkers. Dubos is often considered to be an advocate of Christian stewardship regarding nature, though he actually proposed a '*scientific* theology of the earth', while Mumford had a vague pantheistic sense of God, that was akin to that of Spinoza. But all three social ecologists, when they spoke of 'religion' or 'spirituality', essentially implied a sense of wonder and respect towards natural phenomena, and the need to develop what Bookchin describes as an 'ecological sensibility'. They thus attempt to combine evolutionary naturalism with a form of humanism that is very different from that defined by Ehrenfeld and Gray, one that has been advocated by many contemporary philosophers. This form of humanism has the following characteristics: it is naturalistic rather than supernaturalist, repudiating spiritualist explanations of natural and social phenomena, thus putting an emphasis on human reason; it affirms the unity of humankind and a naturalistic ethics that recognizes the existence of basic universal values; it acknowledges the dignity of the human personality and the crucial importance of upholding such human values as equality, liberty, tolerance and social solidarity; and, finally, it suggests a relational epistemology that emphasizes free inquiry, the importance of reason and science, as well as of the human imagination (Kurtz 1983: 39–47; Bunge 2001: 14–15).

What is crucial with regard to Mumford, Dubos and Bookchin is that they combined humanism (so defined) with a form of naturalism that drew heavily on the ecological and evolutionary perspectives that stemmed originally from Charles Darwin. For it was Darwin who initiated the kind of ecological worldview that these social ecologists affirmed and developed, and utilized to good effect in their political critiques of industrial capitalism. For as Hans Jonas (1966) and Ernst Mayr (1988: 168–83) long ago suggested, Darwin initiated an

intellectual revolution that was fundamental and far-reaching, and which had the following characteristics: it introduced the idea that humans are not the special product of God's creation but evolved according to principles that operate throughout the natural world; it stressed the organic (not spiritual) link between humans and nature; it undermined completely – long before quantum physics (Capra), deep ecology (Naess) and eco-feminist philosophy (Plumwood) – the mechanistic worldview, along with its dualisms, its cosmic teleology and its essentialism; it emphasized the crucial importance of openness, chance, probability and the agency and individuality of all organisms in the evolutionary process; and, finally, it suggested ways of understanding that were both naturalistic and historical (not static and spiritual). This ecological worldview was fully embraced by all three social ecologists (Mumford, Dubos and Bookchin) and combined with a humanistic social philosophy. Mumford described this new vision as 'organic humanism', Dubos as 'ecological humanism', Bookchin as 'social ecology'. It has affinities with the 'evolutionary humanism' outlined by the biologist Julian Huxley (1964), writing during the same period. It is however quite distinct from the ecological humanism advocated by Henryk Skolimowski (1981), who, taking his ideas from A.N. Whitehead, Teilhard de Chardin and Martin Heidegger – all theological thinkers (he makes no mention of Darwin!) – presents us with a form of evolutionary spiritualism (see my critique 1981).

As public intellectuals, Mumford, Dubos and Bookchin, though prolific writers, wrote in a popular style, and avoided academic jargon, hoping to reach a wide audience. Although each scholar had a depth of knowledge in specific fields – Mumford on architecture and urban studies, Dubos being a pioneer microbiologist, and Bookchin writing important studies of the history of socialism and libertarian movements – all three social ecologists bewailed and critiqued the fragmentation of knowledge and the narrow specialisms that characterize contemporary intellectual life. In contrast they adopted a synthetic approach, and in their writings drew on and integrated ideas and concepts from philosophy, history, literature, anthropology, psychology, sociology, archaeology and biology. They were radical scholars rather than academics. They thus felt that an understanding of human social life could only be attained by drawing on a multiplicity of factors – genetic, psychological, historical, environmental. They particularly aimed to bring together and integrate, in a synoptic ecological vision, the humanities (philosophy, history) and the social and biological sciences.

None of these three thinkers doubted the reality of the material world – they were realists. As Mumford expressed it, only a lunatic would fail to recognize

the physical environment, and the need to breathe air, eat food and drink water – for this constitutes the ‘substratum’ of our daily lives. They therefore always tend to rail against idealist philosophers like Plato and Kant. But they also stressed, long before postmodernists, that our understandings of the natural world are always mediated – by our own personal experiences, and by social and cultural factors. We thus never see the world through ‘pristine eyes’ as the anthropologist Ruth Benedict graphically put it (1934: 2). Our conceptions of nature are therefore always diverse and complex.

As pioneer ecologists, all three men offered illuminating accounts of the current ecological crisis, as well as of the social crisis. They highlighted the degradation of the natural environment under industrial capitalism – the pollution of the atmosphere and of rivers and lakes; deforestation; the limitations of industrial agriculture and the adverse effects of toxic pesticides and soil erosion; the problems of chemical additives in food; issues relating to nuclear power; and the serious decline in the quality of urban life through overcrowding, pollution, poverty and traffic congestion. Along with the economist Barbara Ward, Dubos drafted the pioneering report *Only One Earth*, which set the agenda for the United Nations Conference on the Human Environment (1972), and some forty years ago both Dubos and Bookchin were highlighting, with some prescience, the dangers of global warming. And long before Marxists became interested in ecological issues, Mumford, Dubos and Bookchin were suggesting that the ecological crisis had its ‘roots’ in an ever-expanding industrial capitalism, obsessed with economic growth and competition, a market economy that was geared to profits and power rather than human needs.

All three scholars thus came to offer radical critiques of what they describe as ‘industrial capitalism’ or what Mumford came to portray as the ‘megamachine’. Mumford and Dubos were essentially radical liberals, while Bookchin was a social anarchist. Nonetheless they tend to agree on the social measures that were necessary to overcome the present crisis. These include the decentralization of the social economy, and the integration of the city and the countryside to form ‘bioregional’ zones, thus putting an end to the ‘urbanization’ of the landscape; the establishment of participatory forms of democracy, involving local assemblies and direct democracy; and the scaling down of technology to a ‘human scale’, through what later became known as ‘appropriate technology’ (Schumacher), although Bookchin disliked the term. Along with the affirmation of craft industry, all these measures were consistent with the kind of libertarian socialism advocated by William Morris, Peter Kropotkin and Patrick Geddes. It is important to recognize that Mumford, Dubos and Bookchin were not neo-romantics; they critically engaged with, and affirmed, the Enlightenment

tradition, and were neither anti-technology, anti-city or anti-science. Although critical of many aspects of modern science and technology – especially their symbiotic relationship with industrial capitalism – all three scholars affirmed the crucial importance of the scientific method and of an ecologically informed technology. Unlike anarcho-primitivists, and some deep ecologists, all three also positively affirmed the importance of city life – civilization. In contrast, however, to deep ecologists and eco-philosophers, who make a ‘fetish’ out of the ‘wilderness’, Mumford, Dubos and Bookchin emphasized the positive and creative aspects and the importance of humanized or cultural landscapes – which actually constitute the living environment of most humans. What they always insisted upon was the need for diversity, and thus the need to develop and conserve wilderness areas (natural landscapes), the countryside (cultured landscapes such as woods, parks, meadows, gardens and cultivated fields) and urban settings, the town or city duly scaled to human needs and human well-being. Given their ecological vision, Mumford, Dubos and Bookchin always stressed that humans were an integral part of nature, and that the relationship between humans and nature should not be one of mastery or dominion, but rather one that was cooperative and symbiotic – or as Bookchin expressed it, dialectical.

This book consists of three parts and I devote a part to each of these pioneer ecologists. Part 1 is on Mumford’s organic humanism, focusing specifically on his classic studies of technics and the city, which Mumford described in terms of the ‘renewal of life’. Part 2 is on Dubos’ ecological writings and his efforts to develop a ‘scientific theology of the earth’ – a philosophy that Dubos described as involving the ‘celebration of life’. Part 3 is on Murray Bookchin, focusing on his ecological writings (rather than on his anarchist politics) and on his theory of social ecology.



Lewis Mumford and Organic Humanism

1

The Radical Scholar

Some thirty years ago a young British freelance journalist, Anne Chisholm, wrote a book called *Philosophers of the Earth* (1974). It recorded her conversations with a number of important ecologists – most of whom were professional biologists: F. Fraser Darling, Kenneth Mellanby, Charles Elton, Edward Wilson, Barry Commoner and Paul Ehrlich. What a contrast with those who are now considered to be ‘key’ environmental thinkers – which these days include such diverse and questionable figures as Jurgen Habermas, Hannah Arendt, Maurice Merleau-Ponty, Ernst Bloch, Herbert Marcuse, and even Gro Harlem Brundtland – all considered important ‘ecological’ thinkers in recent texts (Macauley 1996; Palmer 2001).

In these and other surveys of environmental thought (Hay 2002), Lewis Mumford is hardly ever mentioned. He has indeed become, as Ramachandra Guha (1996) describes him, the ‘forgotten’ American environmentalist. For in recent years, neo-Marxists, academic philosophers and New Age Spiritualists seem to have appropriated ‘ecology’ for themselves. In the process Mumford has largely been forgotten – not surprisingly, as Mumford was critical of all three forms of scholarship. Yet Chisholm begins her book with the words: ‘of all the wise men whose thinking and writing over the years has helped to prepare the ground for the environmental revolution, Lewis Mumford, the American philosopher and writer must be pre-eminent’ (1974: 1). Mumford had no formal education in ecology, and wrote little specifically on the subject of ecology, yet all his writings, as Chisholm recognized, are fundamentally concerned with ‘man’s environment’ in the broadest sense. Indeed, Chisholm prefaced her book with a quotation from Mumford: ‘All thinking worthy of the name must be ecological’ (1970: 393).

Lewis Mumford (1895–1990) has been described as ‘the last of the great humanists’. An elusive, intense, brilliant and rather self-contained scholar, he was certainly one of the most original thinkers of the twentieth century. A polymath, he made important contributions to many fields of study – history, philosophy, anthropology, urban planning, art and architecture – and

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wrote pioneering studies on the history of cities and technology, studies that have become classics. Critical of academic specialisms, Mumford attempted to bring together the humanities and the sciences, and he was one of the leading advocates in the twentieth century of what he called ‘synoptic’ or ‘ecological’ thinking. He summed up his own organic philosophy with respect to three basic concepts – wholeness, balance and autonomy – and always sought to see life as a whole, seeking to explore the relationships between diverse phenomena: organic, technical, personal, social and cultural (Miller 1986: 5–6).

Described as one of the last of the public intellectuals, a radical independent scholar who made a living from his teaching and his writings, Mumford belonged to no academic institution, and tended to write in a popular style – reaching beyond academics to appeal to the intelligent reader. In fact, all his books are written in a lucid, vibrant prose as opposed to specialist academic jargon (Jacoby 1987: 91–92). Accused by his conservative critics of having a disdain for American society and culture, and of holding ‘antinomian prejudices’ (Shils 1983: 43), Mumford throughout his life espoused radical causes. He was a strident anti-fascist, and vehemently opposed the appeasement of Hitler and Mussolini in the 1930s. He opposed the use and development of the atomic bomb in the 1940s, and inveighed against the communist witch-hunts of Joseph McCarthy in the 1950s. And in the next decade he stridently opposed the American military involvement in Vietnam. As his biographer suggests, Mumford often paid a heavy personal price as a writer for such political activism (Miller 1989: XV I).

A prolific scholar, author of some thirty books and over 1,000 essays and reviews, Mumford produced a body of work that is probably unique and unequalled in American scholarship, with regard to both its diversity and range, and in the insights that it offered. In providing a framework for thinking about the ‘modern crisis’ – ecological, social and political – engendered by global capitalism, his books, as Paul Buhle concluded, can still hardly be bettered (1993: 227).

As I am concerned here to highlight Mumford’s seminal contribution to the development of an ecological worldview, I shall largely focus on his magnum opus, the four volumes that constitute *The Renewal of Life* series: *Technics and Civilisation* (1934), *The Culture of Cities* (1938), *The Condition of Man* (1944)

and *The Conduct of Life* (1951). For these provide, as Ramachandra Guha rightly indicated, an *ecological* history of the rise of modern Western civilization in all its cultural complexity (1996: 213), as well as pointing towards an alternative ecological and social vision. I will not, therefore, engage here with Mumford's other important writings – on regional

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planning, architecture, American culture and literary criticism – nor with his philosophical anthropology and his more ephemeral political tracts.

In Chapter 2 I shall discuss Mumford's early career and the important influences on his work, particularly that of the pioneer ecologist Patrick Geddes. Chapters 3 and 4 focus on his seminal ecological histories of technology and European cities, while Chapters 5 and 6 examine his comprehensive survey of Western culture, focusing particularly on the rise of mechanistic philosophy and its romantic reaction. Chapter 7 is devoted to a discussion of Mumford's theory of organic humanism. In Chapter 8 I shall outline Mumford's thoughts on the 'renewal' of life. This chapter thus examines Mumford's response to the 'modern crisis', engendered by global capitalism and its 'mega machine', particularly his advocacy of bioregionalism and communitarian politics.

2

Lewis Mumford: The Formative Years

Mumford begins his memorable autobiography *Sketches from Life* with the words: 'I was a child of the city'. For Mumford spent the first thirty years of his life in New York City, and described himself as a 'son of Manhattan', admitting that he had spent no small part of his life 'wandering about cities, working in cities, stirred by all their activities' (1982: 4). It is therefore somewhat ironic – and quite misplaced – for Jane Jacobs (1961), in her wellknown study of American cities, to suggest that Mumford had a 'small-town outlook' (Miller 1989: 475).

During his boyhood years Mumford was captivated by Ernest Thompson Seton's ecological primer *Two Little Savages* (1903), and often spent the summer months on a Vermont farm, which he admits had a deep and lasting influence on the tenor of his thought (1982: 89). Born in New York City in 1895, Mumford was an illegitimate child as well as being orphaned, as he put it, even before he was born. He was the illegitimate son of a young Jewish businessman, Lewis Marc, who had a brief affair with his mother when she worked as a housekeeper in his uncle's household. Mumford only learned about this affair much later in life – when he was forty-seven. He never saw his father. Nor did he ever meet the man whose name he carried, John Mumford. He was an Englishman who had married his mother when she was only eighteen years old. A much older man, their marriage was brief and subsequently annulled. He too disappeared completely from Mumford's life. His mother, Elvina, who was of German protestant background, was, therefore, in a sense twice 'widowed' (Mumford 1982: 25). Important, however, in his early life was Mumford's German grandfather, Charles Graessel, a working-class man with a 'genial soul', who took the young Lewis on long walks, exploring the sidewalks and the parks of New York City, as it was at the turn of the century.

This rather unusual background explains, in many ways, Mumford's emotional uncertainties and social marginality – explored with great insight by his biographer – and the fact that he became a rather self-contained 'solitary thinker' who devoted his life to writing (Miller 1989: 3–24; Luccarelli 1995: 15).

From his earliest years Mumford's ambition was to become a writer, and in 1912 he enrolled at the City College, New York, attending evening classes. He studied only the subjects which most interested him – English literature, politics, psychology and philosophy. But Mumford never really took to college life, and although he accumulated enough credits to graduate he never, in fact, took a degree. His studies at City College, however, opened up new vistas for Mumford, and he avidly read the works of William James, Samuel Butler, Henri Bergson, Thorstein Veblen, Leo Tolstoy and Peter Kropotkin. But there was one scholar who came to have a profound influence on Mumford – the 'rustic Scot' Patrick Geddes.

One day while studying in the library at City College, Mumford, who was just nineteen years old, came across Geddes and J. Arthur Thomson's little book on *The Evolution of Sex* (1889). Mumford described this encounter as one of the most decisive events of his life, and in his autobiography he devotes a whole chapter to Geddes, emphasizing his influence – for it was Geddes who introduced Mumford to the 'song of the open road'. This was encapsulated in Geddes' own favourite Latin motto, *vivendo discimus* – 'we learn by living'. During the period 1915 to 1925 Geddes' ideas, and especially his 'audacious insurgency' left their mark, Mumford was to write, on his whole life (1982: 158). Given the crucial importance of Geddes to Mumford's developing philosophy, it may be helpful to provide some biographical details of this influential, enigmatic and rather neglected scholar.

Patrick Geddes (1854–1932) trained as a biologist, studying, like H.G. Wells, under Thomas H. Huxley, famously known as 'Darwin's bulldog'. For over forty years Geddes was a part-time professor of botany – his main passion – at the University College, Dundee, teaching mainly during the summer months. With J. Arthur Thomson he wrote two pioneering biology texts, *The Evolution of Sex* (1889) and *Life: Outlines of Biology* (1931). Described as a 'most unsettling person', Geddes was also a pioneer sociologist, being particularly influenced by the French empirical sociologist Frederic le Play. Stressing the importance of empirical surveys, Le Play theorizes the need to explore the organic interrelationships between the environment (place), occupation (work) and the wider aspects of sociocultural life (folk). Although Le Play was an important early environmental sociologist, and had an important influence on both Geddes and Mumford, he hardly merits a mention in recent sociological texts (cf. Hannigan 1995). This is no doubt due to the fact that Le Play was a staunch Catholic and a highly conservative thinker.

Geddes not only lectured in sociology but, along with Victor Branford, founded in 1904 the Sociological Society. Mumford was to be editor of its journal *The Sociological Review* for a year in 1920. Travelling extensively throughout his life, and spending many years in India, Geddes came to meet and correspond with many key figures of the twentieth century – William James, Annie Besant, John Dewey, Peter Kropotkin, Rabindranath Tagore, Mohandas Gandhi and Henri Bergson (Kitchen 1975: 16).

Slight, untidy in his dress, always in a hurry, an incessant talker, and with a thick reddish beard, Geddes was the stereotypical ‘professor’. Described by Tagore as combining the precision of a scientist with the vision of a prophet, Geddes had an acute ecological sensibility. Equally involved in town planning and architecture, he was for many years practically involved in ‘civic renewal’ – especially in the improvement of urban environments, such as the tenement slums of old Edinburgh. His well-known text *Cities in Evolution* (1915) is considered a classic in enlightened town planning (Kitchen 1975: 242).

Never having much enthusiasm for party politics and distancing himself from Marxist socialism, Geddes, like Mumford, was very much a radical liberal and co-operative socialist. Nationalism and conventional politics thus had little relevance for him, and he was utterly opposed to the use of violence for political ends. It is of interest that his closest friends included such anarchists as Peter Kropotkin, and the brothers Elisee and Elie Reclus (Kitchen 1975: 22).

This is the man who had such a profound influence on Lewis Mumford. What particularly appealed to Mumford was that Geddes, like Spencer and Kropotkin, was a synthetic philosopher, and repudiated all forms of narrow ‘specialization’ which Geddes defined in a memorable epigram as ‘knowing more and more about less and less’ (Mumford 1982: 145). Long before Jan Smuts coined the term, Geddes, Mumford suggests, practised ‘holism’, teaching that no aspect of the living organism could be understood except in terms of the dynamic interacting and all-developing whole in which it functioned. For Geddes, following Darwin, ecological thinking, Mumford writes, had become second nature: ‘well before the discipline had been defined or even named’ (1982: 147). Mumford too embraced this ecological vision.

Having an ecological perspective, Geddes, like Kropotkin, while appreciating city life – civilization – showed no disdain for country life, whether rural personalities or the agricultural economy. He thus emphasized the

interconnections between the city and its rural hinterland, advancing an approach which suggested that problems of the city could only be understood from a regional perspective; that it was necessary to focus on the entire region as a 'complex inter-connected ecosystem', as well as looking at the city historically in terms of its social evolution (Miller 1989: 54). Equally important, Geddes taught Mumford to study city life as an ethnographer – as a participant-observer, not as a 'mere spectator' or a 'collector of statistics'. Thus Mumford, following Geddes, began to explore the streets and neighbourhoods of New York City, as well as exploring the surrounding countryside – recording his impressions, taking factual notes, making watercolour sketches, concretely experiencing the life of his own native environment. These experiences and ethnographic surveys, made by Mumford when in his twenties, formed the basis for all his later studies of urban architecture and city life (1982: 155). While it was Geddes the academic activist and 'insurgent thinker' that most appealed to Mumford, he also imbibed from his mentor a healthy scepticism towards all closed ideological systems (1982: 158).

In the summer of 1923 Mumford met Geddes personally, during the latter's visit to the United States, Mumford arranging for Geddes to give a series of lectures at the New School of Social Research. Having lost his eldest son in the First World War, Geddes seems to have expressed an emotional need to embrace Mumford as his adoptive son and intellectual heir. But Mumford, who like Geddes, was a fiercely independent spirit, found all this too intense and too difficult to handle. He therefore kept his distance. Thus, although Mumford and Geddes had great mutual respect for each other, and shared a close intellectual bond, they never became intimate friends (Mumford 1982: 322; Miller 1989: 220).

Many decades later, in a new edition of Geddes' *Cities in Evolution* (1950), Mumford reaffirmed Geddes' status as a truly 'original' thinker. Although admitting that he never really achieved any real degree of intimacy with Geddes, Mumford stressed the importance of his mentor as a pioneer ecologist, who along with Haeckel and Kropotkin had laid the foundations of the science of ecology (1956: 99–111).

Geddes, as Mumford expressed it, was always on 'the side of life', and Mumford took from his mentor three important ideas: the revitalization of history and geography by means of first-hand exploration and regional studies; a synthetic or holistic philosophy that viewed all organisms in terms of their context and wider

relationships – in contrast to the method of isolation and detached analysis; and, finally, an ecological sensibility, a new sense of the organic and of the delights and wonders of nature (1944: 389–390, for other reflections by Mumford on Geddes see Mumford 1979: 100–118).

When an evening student at City College, Mumford met Irwin Granich, a tough working-class radical who had been born in New York's East Side tenements. 'Ghetto smart and proud of his proletarian roots' Granich was later, under the pen-name of Michael Gold, to write a proletarian classic *Jews Without Money* (1930). Mumford and Granich became firm friends, as they both shared a love of Walt Whitman's writings. When they first met Granich was an anarchist and like Mumford had an enthusiasm for decentralized politics, and particularly for the ideas of the Russian anarchist, Peter Kropotkin. It was Granich who arranged Mumford's first public lecture in 1917 at the anarchist Ferrer Society. Here Mumford addressed a small group on 'Kropotkin and the Philosophy of Regionalism' (Miller 1989: 98). Although they shared a radical vision and had a strong mutual regard for one another, as the years went by they drifted apart, for Granich, after the Russian revolution, became a fervent and fiery revolutionary Marxist. As Mumford put it, Granich later became 'one of the most promising literary talents that was ever sacrificed to the petrified dogmas of Russian communism' (1982: 135). In turn, Granich accused his friend of being a wishy-washy 'bourgeois liberal'. This was to some extent a valid assessment, for in essence Mumford was a radical liberal, his desire for a more humane economic system emerging from the writings of Patrick Geddes, William Morris, Leo Tolstoy and Peter Kropotkin – rather than from Marx and Engels (Miller 1989: 98–99).

At the time of Patrick Geddes' visit to the United States in 1923, Mumford, along with several other community planners and architects, helped to found the Regional Planning Association of America. An informal group of like-minded individuals, it included several men who later became lifelong friends of Mumford – among them Benton Mackaye, Clarence Stein and Henry Wright.

The aim of the Regional Planning Association was to provide a coherent and viable alternative to the megalopolis and thus counter the trend towards the ever-larger urban concentrations. Mumford was a key figure in the Association, and through this organization came to develop and advocate a radical reform of 'regionalism'. In his study of Mumford and the politics of planning, Mark Luccarelli (1995) gives a succinct outline of Mumford's views on regional

planning, as well as the history of the Association.

Besides Geddes' book *Cities in Evolution* (1915) two other 'key texts' seem to have been important to Mumford and to have inspired the leaders of the Regional Planning Movement. One was Peter Kropotkin's *Fields, Factories and Workshops* (1889), which placed an emphasis on cottage-type industries and small rural-based factories, self-managed by the workers themselves. The other was Ebenezer Howard's *Garden Cities of Tomorrow* ([1898] 1965), for Howard envisaged planned 'garden cities' that would unite the city and the countryside and provide their inhabitants with employment, shopping, recreation and cultural facilities. Even as early as 1917 Mumford expressed this new ecological regional vision in an essay entitled 'Garden Civilizations: Preparing for a New Epoch' (Mumford 1982: 335; Luccarelli 1995: 76). In his classic text *The City in History*, Mumford continued to write warm tributes to both Kropotkin and Howard, as offering viable alternatives to the megalopolis – with its mass congestions, its industrial pollution, its lengthening journeys to work and its lack of organic life (1961: 585–586).

Other books which were important to Mumford in the development of his 'regionalism' were Walt Whitman's *Leaves of Grass* ([1855] 1958), George Perkins Marsh's *Man and Nature* (1864) (which Mumford did much to reclaim as an ecological classic) and George Russell's *Co-operation and Nationality* (1912). Usually known as 'AE', George Russell was a popular Irish poet who preached agricultural co-operation as well as Irish Nationalism. Mumford, however, was less interested in Russell's poetry and Nationalism than in his Nature Mysticism and his message of agricultural co-operation. Reading Russell in fact induced Mumford, in 1916, to take a course in agricultural economics at Columbia University (Mumford 1982: 165; Miller 1989: 87).

Mumford's regional ecological vision, though complex and multifaceted, essentially embraced two important ideas: an emphasis on community politics and participatory democracy; and an organic philosophy which sought to establish the city as a 'polis' in relation to the organic life of a specific ecological region. The first attempted to curb the power of the nation-state and industrial capitalism – the 'megamachine'; the second to provide an alternative to mechanistic philosophy and its offshoot, technological reason. For these, Mumford felt, tended to entail the domination of nature and the regimentation of social life. Regionalism was thus the alternative to the growing megalopolis.

Although not an anarchist in spite of his admiration for Kropotkin, and in many ways lacking any clear political vision, Mumford always sought to restore the American civic tradition of democratic participation. This was the ideal of a decentralized politics, as expressed, for example, in the ‘democratic vistas’ of Walt Whitman and in the anarchist writings of Reclus and Kropotkin. The future, for Mumford, lay not in nation-states, nor in liberal democracy, but rather in a decentralized society where communities and cooperative associations would establish corporate autonomy and carry on their functions independently of the state. Such local associations and economic institutions would, Mumford suggested, revitalize the life of cities and express the diversity of the regions (Luccarelli 1995: 23). In such communities the dignity and creativity of human labour would also be restored, for like William Morris and Thorstein Veblen, Mumford firmly believed that a productive engagement with nature was crucial to people’s self-identity (Luccarelli 1995: 37).

It is worth noting that Mumford had a high opinion of Veblen, having known him both as a tutor and as a colleague while working for the radical literary journal *The Dial*. Though unimpressive as a lecturer, Veblen and his writings made a deep impression on Mumford. He described Veblen as being like Geddes, something of an academic ‘heretic’ (1982: 220). This is a description that also fits Mumford.

Complementing his advocacy of decentralized politics, Mumford also expressed an organic or ‘holistic’ philosophy; one that aimed to combat the fragmentation of social life and the specialization of knowledge, inherent under industrial capitalism. This organic perspective, which I discuss at length below, Mumford essentially derived from his mentor Geddes. Indeed he saw Geddes as primarily *the* philosopher of life; for Geddes’ doctrine of ‘evolutionary vitalism’, Mumford noted, rested ‘on the perpetual capacity of life to renew and transcend itself’ (1956: 100–101). Thus Mumford sought a balanced approach that would bring together and integrate biology and sociology, the sciences and the humanities, reason and the imagination, thought and action. He has therefore been described as a sort of ‘literary sociologist’ (Bender 1987: 235), though Mumford incorporated into his writings insights drawn from anthropology, psychology – the psychologist Henry Murray was a close personal friend – architecture, town planning, philosophy, political theory, as well as history. Like Geddes and Kropotkin, he was therefore a trans-disciplinary thinker, a ‘generalist’, opposed to an exclusive specialism.

Concerned with both the destruction and the over-exploitation of nature and the decline of urban life under industrial capitalism – the megalopolis – Mumford's ecological 'regionalism' was a vision of 'an organic order that enlivens culture' as Luccarelli succinctly puts it (1995: 2). Both technology and the city had therefore to be situated within an organic regional culture. This entailed the development of a 'regional consciousness' or a 'phenomenology of place' that would complement his advocacy of communitarian politics – participatory democracy (Luccarelli 1995: 21).

Such were Mumford's early thoughts on ecological 'regionalism', expressed in early articles in *The Sociological Review*. It is a topic I shall discuss more fully later.

3

Technics and Civilization

The four volumes that constitute Mumford's magisterial work *The Renewal of Life* sought, Mumford tells us, to exemplify in method and plan the theory of 'organic humanism'. Full of good scholarship, radical in tone and substance, refreshingly free from scholastic jargon, the volumes offer a history and interpretation of the development of Western civilization. Given Mumford's bioregional emphasis, they essentially entail a democratic vision and an ecological worldview. Three aspects of Western civilization are explored by Mumford with unusual depth and insight: *technics*, the rise and triumph of industrial capitalism – the megamachine; the development of the European *city*; and a historical account of Western *culture*, with Mumford emphasizing the emergence of an organic perspective – an ecological philosophy – as the basis for the 'renewal' of Western civilization, which he felt was undergoing a deep 'crisis'. This crisis was manifold – ecological, social and political.

Though highly critical of Oswald Spengler's politics mysticism', Mumford nevertheless adopted Spengler's 'technics' to refer to the industrial *arts*, in contrast to its systematic study – technology. *Technics and Civilization* is thus a book that deals with the history of technics in Western culture, particularly seeking to understand the rise of, and the dominant role that modern technics (machinery) has come to play, in contemporary Western civilization. Making also a distinction between a tool and a machine, in the sense that a machine is to some degree independent of the skills and motive power of its operator, Mumford suggests that both tools and machines (as well as utensils and utilities – such as roads, houses and dams) are essentially attempts to 'modify the environment in such a way as to fortify and sustain the human organism' (1934: 10).

For the last 3,000 years machines have been a part of human culture, and although Mumford uses the term 'the machine' to refer to an entire technological complex, including tools, machines, utilities, as well as skills and knowledge, he emphasizes that technology does not form an independent system. The 'machine' exists only as a part of human culture (1934: 6). What particularly intrigued

Mumford was Western culture's unquestioning and his 'rancid concept of the commitment to material progress, and the various factors that gave rise to its 'cult of the machine' (Miller 1989: 326).

Mumford divides the development of industrial civilization into three successive, but overlapping and interpenetrating phases, each characterized by a particular mode of energy and technology. These he terms the *eotechnic*, the *paleotechnic* and the *neotechnic*, adopting the last two terms from Patrick Geddes. He sums up these three phases as follows: 'Speaking in terms of power and characteristic materials, the eotechnic phase is a water-and-wood complex; the paleotechnic phase is a coal-and-iron complex; and the neotechnic phase is an electricity-and-alloy complex' (1934: 10).

Writing that civilizations (or cultures) are not self-contained entities, Mumford stresses that present-day machine technology is the outcome of a creative syncretism – noting that the windmill came to Western Europe from Persia in the eighth century, while the magnetic compass and gunpowder came from China and algebra from India via the Arabs (1934: 108).

There has been a tendency among popular historians, Mumford insists, to interpret the 'industrial revolution' as a relatively recent phenomenon and to date it from Watt's invention of the steam engine around 1780. But to understand the dominant role that the technics now play in Western civilization it was necessary, Mumford felt, not only to understand the long development of technics itself – and its ideological and social antecedents, but also to recognize that most of modern technology existed in, and was derived from, other civilizations. Such instruments include the clock, the watermill, the printing press, the magnetic compass, as well as mathematics and chemistry (1934: 4).

This leads Mumford in the early chapters of *Technics and Civilization* to explore the 'cultural preparations' and the various 'agents' of mechanization that precede the emergence of industrial capitalism – the paleotechnic phase. Among the cultural preparations for the machine that took place between the tenth and eighteenth centuries, Mumford highlights the importance of monastic discipline and the clock. In their emphasis on discipline, routine and orderly life, Mumford suggests, following Werner Sombart, that Benedictine monks were the 'original founders of modern capitalism'. But crucial to the development of quantitative modes of thought and the regular measurement of time was the appearance of the mechanical clock around the thirteenth century. For the clock disassociated

time from the organic life, allowing people not only to keep a track of the hours but also the synchronizing of human activities. The clock, Mumford writes, and not the steam engine, is ‘the key machine of the industrial age’ (1934: 13–14).

Equally important was the growing regimentation of social life, ‘mechanism’ itself becoming an element in the organization of socioeconomic life. ‘The slaves and peasants who hauled the stones for the pyramids, pulling to the crack of a whip, the slaves working in the Roman galley, each man chained to his seat and unable to perform any other motion than the limited mechanical one’ – all these, Mumford affirms, were *machine phenomena* (1934: 41). Thus the mechanization of human habits and the regimentation of social life prepared the way for the advent of industrial civilization and the megamachine.

In his later study *The Myth of the Machine* (1967), Mumford elaborated upon the idea that the megamachine was first constructed as a ‘power complex’ by the ancient Egyptians and other early civilizations. Though lacking complex technology, the ruling elites of the ‘Pyramid Age’ devised a machine in which the ‘parts’ consisted of slaves; it involved a highly centralized and co-ordinated system of forced labour, under the absolute authority of a divine king, identified with the sun-deity. The emphasis was on control, regimentation, obedience and uniformity. These features also characterized the modern megamachine which Mumford saw as reflected in the sociopolitical organization of the two superpowers – the United States and the Soviet Union – after the Second World War (discussed below).

Ideological factors also played a role in the emergence of an industrial culture. Mumford discusses, for example, the decline of animism and pagan modes of thought, and their displacement by the doctrine of an omnipotent deity who created an orderly world. Deism thus became prevalent during the seventeenth century, God being conceived as an eternal clockmaker. Likewise, the mechanistic philosophy expressed by such thinkers as Bacon, Descartes, Galileo and Newton, all devout Christians, led to an overemphasis being placed on the physical world and consequently the elimination of the organic (1934: 46–47).

The outcome of this mechanistic philosophy, Mumford writes, was ‘the use of science for the advancement of technics, and the direction of technics towards the conquest of Nature’ (1934: 57). The leading utopias of the time, such as Andreae’s *Christianopolis* (1619) and Bacon’s *New Atlantis* (1627), all focused on the possibility of utilizing the *machine* to make the world more perfect (1934:

58). Mumford thus concludes that once the ‘mechanical world picture’ was established – around the seventeenth century – machines could thrive, multiply and dominate existence, and the outer world of perception became more important than the inner world of feeling (1934: 49–51).

One final factor was significant in the rise of industrial capitalism and its megamachine, and that was the emergence of capitalism itself around the sixteenth century. This development brought new habits of abstraction and calculation into the lives of city people – time not only became money, but was also ‘power’. Although emphasizing the need to make a clear distinction between capitalism and technics, Mumford concludes that: ‘Capitalism utilised the machine, not to further social welfare, but to increase private profit: mechanical instruments were used for the aggrandizement of the ruling classes’ (1934: 27).

In his account of the ‘agents’ of mechanization, besides emphasizing the importance of wood in early Neolithic culture, when it was a crucial source of energy (1934: 77–79), Mumford discusses two topics of particular interest. The first is the cultural implications of mining, especially of gold and iron. This was initially seen as a form of punishment rather than an occupation – something performed by slaves and prisoners. The mine, Mumford suggests, was the first ‘inorganic environment’ to be created and lived in by humans. Field and forest, and stream and ocean, he writes, are the environment of life; in contrast, the mine is the environment alone of ores, minerals and metals – a place devoid of life (1934: 69). Mumford thus posits that the mine became a ‘concrete model’ for the conceptual world that was later envisaged by the physicists of the seventeenth century, as well as being inextricably bound up in the early development of capitalism (1934: 70–74).

The second topic relates to the crucial impact that warfare and military life had in the emergence of modern forms of the machine. Apart from the development of mechanized warfare and the mass production of muskets and military equipment, the ‘regime of the soldier’ engendered discipline, regimentation and uniformity. With regard to the soldier of the seventeenth century, Mumford writes that ‘drill made them act as one; discipline made them respond as one, the uniform made them look as one’ (1934: 92). War is thus described by Mumford as the main ‘propagator’ of the machine, and the chief instrument by means of which the ruling classes created the state. The outcome of war, and the alliance between mechanization and military power was, however, not wealth or human

well-being but rather ‘misery, mutilation, physical destruction, terror, starvation and death’ (1934: 86–96). Mumford therefore concludes that the machine came into Western culture ‘Not to save man from servitude to ignoble forms of work, but to make more widely possible the servitude to ignoble standards of consumption that had grown up among the military aristocracies’ (1934: 106).

Eotechnic Phase

The eotechnic phase, the ‘dawn age’ of modern technics (*eos*, Greek, dawn), stretches roughly from the year 1000 to 1750. Although the medieval period has often been depicted in rather derogatory fashion as technologically backward, Mumford follows Kropotkin and William Morris in emphasizing the positive aspects of this period – especially when contrasted with the later Paleolithic phase. Wood was the universal material of the eotechnic economy, particularly important in the building of houses and ships, as well as in the making of utensils, ranging from wagons to washtubs. From the twelfth century onwards two other sources of power became important – the watermill for grinding corn and for facilitating the production of iron; and windmills, which were particularly important in the reclamation of land, particularly in Holland. Somewhat lyrical regarding the impact of wind and water power, Mumford notes that this brought a large intelligentsia into existence, and thus the creation of great works of art and scholarship, science and engineering – without recourse to slavery. This, he suggests, was a ‘victory for the human spirit’ (1934: 118).

Equally important, it was during the eotechnic phase that most of the important technical inventions were brought into being: the telescope, the mechanical clock, the printing press, the magnetic compass – *and* the hand mirror, which led to an emphasis on self-consciousness, reflexivity and introspection (1934: 129). Mumford reiterates that the clock was the most influential of all the machines, both mechanically as well as socially. He also emphasizes the importance of the universities, created in the twelfth and thirteenth centuries, and notes the most important invention of all – the experimental method in science (1934: 132).

During a greater part of the eotechnic phase, culture and technics were in relative harmony, and except with regard to the mine and the battlefield, technics were, in an ecological sense, largely benign and predominantly, as Mumford puts it, ‘in the service of life’ (1934: 150). With respect to human culture as a whole Mumford describes the eotechnic period as ‘one of the most brilliant periods in history’. For alongside its mechanical achievements, ‘it built cities, cultivated

landscapes, constructed buildings, and painted pictures, which fulfilled in the realms of human thought and enjoyment, the advances that were being made in the practical life' (1934: 111).

Mumford, however, was not unaware of the political and social inequalities that were also evident during the medieval period. In fact, he showed, at least since the emergence of civilization, that the rise of state power has gone hand-in-hand with the division of society into classes, the development of systems of forced labour, the creation of empires, the construction of useless monuments, the despoliation of the landscape, and the recurrence of civil protests, rebellions and disorder (Sale 1980: 131). In contrast to Fredy Perlman (1983), however, Mumford recognized that civilization was a dual heritage, and saw the medieval period particularly as one involving an expansion of human freedoms – with the emergence of the 'free' medieval city, the guild system and the printing press.

There is, however, some truth in the assertion that Mumford tended to overlook the drudgery and the hierarchical nature of medieval society – a period he describes as one of the 'greatest moments' in European culture (1970: 6; Marx 1990: 179). What is significant is that Mumford emphasizes the ecological viability of the eotechnic economy. Two quotations will suffice to illustrate this positive assessment.

The mill was good for a long life; the upkeep was nominal; the supply of power inexhaustible. And so far from robbing the land and leaving behind debris and depopulated villages, as mining did, the mills helped enrich the land and facilitated a conservative stable agriculture.

(1934: 118)

the energy of the eotechnic regime did not vanish in smoke nor were its products thrown quickly on junk-heaps: by the seventeenth century it had transformed the woods and swamps of Northern Europe into a continuous vista of wood and field, village and garden: an ordered human landscape replaced the bare meadows and the matted forests, while the social necessities of man had created hundreds of new cities, solidly built and commodiously arranged, cities whose spaciousness and order and beauty still challenge.

(1934: 147)

In his later study, *The Pentagon of Power* (1970) Mumford continued to write in

glowing terms of the 'polytechnic heritage' of the late medieval period. He emphasizes the international character and spread of technological innovations, the close links between medieval technics and organic agriculture, and that the increase in water and wind power had for the first time in history created an advanced economy based entirely on 'free' (i.e. non-slave) labour. The prime agents of this industrial freedom were, he writes, the selfgoverning craft guilds (1970: 133). Mumford particularly emphasizes the importance of the printing press in the spread of technological knowledge, and berates the fact that with the rise of capitalism and the centralized territorial state, craft knowledge and industry tended to be despised, denigrated and eliminated from much of socioeconomic life. It involved the sacrifice of a diversified economy for the 'power system' – the emerging modern megamachine. This systematic destruction of the craft workshop was, as Mumford felt (following William Morris) neither inevitable nor necessary (1970: 153–159).

Paleotechnic Phase

After 1750, industry passed into a new phase, with a 'different source of power, different materials, and different social objectives'. This implied a second industrial revolution which Mumford, following Geddes, calls the paleotechnic age. This new phase also implies a sharp shift of values, from those of life to those of money and power. The overriding social objectives of what Mumford came to describe as 'carboniferous capitalism' thus became power, profit and efficiency. Mumford sums up the characteristics of the new era thus:

The great shift in population and industry that took place in the eighteenth century was due to the introduction of coal as a source of mechanical power, to the use of new means of making that power effective – the steam engine – and the new methods of smelting and working up iron. Out of this coal and iron complex a new civilization developed.

(1934: 156)

Although acknowledging that industrial capitalism may have helped to lay the foundations for a 'more humane culture' than that which had prevailed even during the medieval period, Mumford is extremely critical of the social and ecological impact of the paleotechnic phase, describing it as a 'disastrous interlude' (1934: 211). Even the psychological results of carboniferous capitalism are viewed by Mumford in extremely negative terms – the

expectation of getting something for nothing, a disregard for a balanced mode of production, an emphasis on consumption and acquisition, and the acceptance of debris and wreckage as part of the normal human environment (1934: 158).

But the social and ecological costs of the paleotechnic era – industrial capitalism – Mumford describes in more detail. The ‘realities’ of the era, Mumford argues, were money, prices, capital, shares, and the environment itself was disregarded and treated as if it was an abstraction. ‘Air and sunlight, because of their deplorable lack of value in exchange, had no reality at all’ (1934: 168). Thus the values of the paleotechnic economy were viewed by Mumford as rather topsy-turvy: environmental degradation was the result. Industrial and chemical waste products, and even human excrement were dumped into streams, making them foul-smelling and poisonous. Fish died, and the water became unfit for either drinking or bathing in. Although the steam engine was heralded as a symbol of power and efficiency, Mumford emphasizes that the smoking factory chimney ‘polluted the air and wasted energy’ (1934: 168). Atmospheric pollution was therefore one of the first signs of paleotechnic industry.

The overcrowding of the new industrial towns, lacking clean drinking water and satisfactory sanitation, and lacking, too, open spaces and gardens (as were found in the early medieval cities), led inevitably to widespread disease such as smallpox, tuberculosis, typhoid and rickets (1934: 170). Thus social deprivation, environmental squalor and undernourished children were a constant feature of the paleotechnic era.

Under industrial capitalism, human beings, Mumford argues, were dealt with ‘in the same spirit of brutality as the landscape’ – for workers were reduced to being merely cogs in the industrial machine, working long hours in appalling conditions. And it was starvation, ignorance and fear that kept them tied to the machine. These three conditions, Mumford writes, were the foundations of ‘industrial discipline’ (1934: 172–173).

Some telling criticisms are made by Mumford of nineteenth-century bourgeois ideology, specifically the doctrine of progress, the liberal conception of the ‘economic man’ – that ‘walking abstraction’ as Mumford describes it – as well as the Malthusian doctrine of the ‘survival of the fittest’ which was used to justify competition and the predatory nature of industrial capitalism. I shall discuss each of these doctrines in Chapter 6.

Mumford's overall assessment of the paleotechnic era is often extremely negative. Stressing the close association between paleotechnic society and warfare, Mumford notes that, exploited simply for power and profit, the destination of most goods made by the machine is 'either for the rubbish heap or for the battlefield' (1934: 196). Although Mumford talked of the paleotechnic phase in the past tense, he stressed that its methods, and the modes of thought that it had produced, still ruled a greater part of the Western culture. As he explicitly noted: 'Paleotechnic ideals still largely dominate the industry and politics of the Western World' (1934: 213).

Yet despite this, he remained hopeful for he saw the paleotechnic era as merely a period of transition, 'a busy, congested, rubbish-strewn avenue between the eotechnic and the neotechnic economics' (1934: 211). While paleotechnic industry was fundamentally anti-life, the emerging neotechnic phase, with its remarkable inventions and discoveries, opened up the possibility of machine technology becoming for the first time a 'direct ally of life' (1934: 247).

Neotechnic Phase

During the 1930s, when he wrote *Technics and Civilization*, Mumford clearly felt that he was living in an age when the new discoveries in science and technics heralded the possible emergence of a more positive, life-affirming and egalitarian form of society. It would enable a fresh integration to be made between work, art and life. For towards the end of the nineteenth century many scientific discoveries and inventions had been made which Mumford thought would completely transform the nature of industry, laying the foundations of a more humane technology. Important among these inventions were the radio telegraph, the electric lamp, the telephone, electric motors, and, as the twentieth century progressed, the phonograph, the internal combustion engine (the automobile and the aeroplane), the camera and the motion picture, as well as the use of the spectroscope and X-ray. Equally important, the nineteenth century saw the emergence of the biological and social sciences, and the direct application of scientific knowledge to technics and to the conduct of life (1934: 214–217).

But for Mumford the neotechnic phase was particularly characterized by the use of new materials – glass, copper, aluminium, silica, and various synthetic compounds such as Bakelite and celluloid – as well as by a new form of energy, electricity. Hydro-electricity, as well as the potential use of solar energy, Mumford envisaged as a new form of non-polluting energy that would lead to a

reduction in the size of productive units. 'Bigger no longer automatically means better' wrote Mumford, and with the 'electric power plant' as the driving force of the new technology, flexible power units, smaller workshops, and the decentralization of industry became, he felt, possible (1934: 221–226).

Mumford seems to have been less than enthusiastic about the private motor car, indicating its inefficiency, the problems of congestion within the metropolis and on the highways, and the fact that it causes a serious loss of human life, as well as hampering pedestrian movement (1934: 237). He never drove a car in his life and later became one of the fiercest critics of what he called 'the religion of the automobile' (Miller 1989: 204).

While the paleotechnic period was marked by a reckless waste of resources, and the degradation of the environment, Mumford felt that the new technology would foster a new conservation ethic, and writes: 'Electricity itself aids this transformation. The smoke pall of paleotechnic industry begins to lift; with electricity the clear sky and the clear waters of the eotechnic phase come back again' (1934: 255). The conservation of the environment Mumford thus saw as a key aspect of the neotechnic phase, and he points to the important writings of Charles Darwin and George Perkins Marsh in the development of an emerging ecological worldview. In his classic study *Man and Nature* (1864) Marsh had emphasized the detrimental effects of deforestation and soil erosion while Darwin Mumford interpreted as *the* pioneer ecologist (1934: 256).

Fully aware that the new machines and energies of the neotechnic phase were being utilized to further capitalist production and the 'military enterprise', Mumford nevertheless felt that this technology could be employed for 'more vital and humane purposes' (1934: 265). The remainder of *Technics and Civilization* is devoted to a discussion of the social implications and consequences of the neotechnic economy, though Mumford continues to make some telling criticisms of industrial capitalism. Summing up the chief characteristics of 'machine civilization' Mumford emphasizes the following: the increase in mechanical power and the subsequent multiplication of goods; the contraction of time and space – a feature of capitalism that was later stressed by such scholars as Anthony Giddens (1981: 40) and David Harvey (1996: 242–247) – and the increasing standardization and collective nature of production (1934: 281).

One particular feature that Mumford highlights was the preoccupation with the

production of more and more goods, and the development of what he describes as 'purposeless materialism', or what in contemporary parlance is called 'consumerism'. This emphasis on the acquisition of material goods not only tends to marginalize non-material interests and occupations of humans, but gives licence, he felt, to gross social inefficiency. Canning and refrigeration, for example, as inventions, have been real gains, but the use of canned goods in country districts where fresh fruit and vegetables are readily available is not, Mumford argues, a rational form of distribution, and represents a social loss: 'The habit of producing goods whether they are needed or not, of utilizing inventions whether they are useful or not, of applying power whether it is effective or not, pervades almost every department of our present civilization' (1934: 274).

The result is that this prevents the full development of the human personality, and tends to devalue other important human activities and interests. The reason for this is, of course, that the 'machine' under industrial capitalism has been utilized not to meet basic human needs, or to reduce unnecessary human labour, but rather as a source of 'profits, power and wealth' for the ruling classes (1934: 281).

With the expansion of machine technology we passed, Mumford writes, from 'an economy of need to an economy of acquisition', and the aimless expansion of production became a typical 'disease' of capitalism. In contrast to the dogma of increasing and unlimited wants, Mumford argues that vital needs are necessarily limited, and that there is no essential relationship between the provision of a plethora of machine-made 'goods' and the essential elements of a good life. A pleasant and stimulating environment, which includes both cultivated and natural aspects, is not, he emphasizes, a 'machine-made product'. Capitalism, he concludes: 'thrives by stimulating wants rather than by limiting them and satisfying them. To acknowledge a goal of consumption would be to place a brake upon production and to lessen the opportunities for profit' (1934: 391–396). Mumford notes too the essential paradox of capitalism: that while loudly proclaiming the doctrine of unlimited wants, it has never been able to satisfy even the most basic needs of a large population (1934: 397).

Under capitalism, work has also been regimented, routinized, and has largely become a form of drudgery. Mumford does not call for the 'abolition of work', for he recognized that work is the 'constant form' of humanity's interaction with the environment, if, by work, he writes, 'one means the sum total of exertions

necessary for maintaining life' – that is, an organic relationship with the natural world (1934: 279). What he suggests, like Kropotkin, is not the elimination of work, but the rational use of the machine, and the elimination of 'servile work or slavery: those types of work that deform the body, cramp the mind, deaden the spirit'. Work, he notes, like mapping the stars, or digging the garden, is one of the permanent joys of life (1934: 414).

Under machine civilization, with a lack of emphasis on the organic, and the dehumanization of society through capitalist exploitation and military conquest, a number of 'compensatory' mechanisms have arisen which, Mumford argues, serve to stabilize the existing state of affairs. There is thus an emphasis on sex as an instinctive reaction against the machine, an obsession with change and novelty in response to the excessive regimentation and monotony of economic life under capitalism, and, most important for Mumford, the emergence of 'mass sport' as a modern 'spectacle'.

In contrast to play, which is found in one form or another in every society, mass sport under capitalism is a spectacle that emphasizes competition, chance (and the betting on outcomes), record-breaking, the cult of celebrities, and high drama – the thrill of the spectacle being especially intensified by 'the promise of immediate death or fatal injury' (1934: 304). Sport under capitalism is no longer simply a game, but has a compensatory function, as well as being a highly profitable business (1934: 307). Mumford's writings on the social implications of 'sport' under capitalism have a certain prescience and his concept of the 'spectacle' was later taken up by the Situationists.

In spite of his harsh critiques of machine civilization, Mumford was not anti-technology, even less anti-science. He certainly did not exhibit 'techno phobia' as implied by Martin Lewis (1992: 119), an 'ailment' that seems to beset many recent critics of 'technology' (e.g. Mander 1991; Watson 1999). For Mumford viewed the 'machine' (i.e. modern technology) as essentially 'ambivalent', as it had created order as well as chaos and environmental degradation; it had economized human energy as well as misdirecting it. It had become both an 'instrument of liberation' as well as 'one of repression' (1934: 283). Machine technology had nevertheless, Mumford conceded, made a 'durable contribution' in both its aesthetic and its techniques, to human well-being, and was itself, like science, the product of the human imagination. As Mumford writes: 'No one but an idiot would belittle the exhilarating prospects for the human spirit that the sciences, abetted by technics, have opened up' (1970: 182). The problem was

that there had been a one-sided emphasis on machine technology to the neglect of the more vital aspects of human life, both in terms of social organization and the human personality.

Thus Mumford concludes that we do not have to remove machine technology completely and return to handicrafts in order to abolish a good deal of useless machinery and burdensome routine – ‘we merely have to use imagination and intelligence and social discipline in our traffic with the machine itself ’ (1934: 427). At a time when scholars tend to gravitate towards extremes, and to be either uncritical technology enthusiasts or unrelentingly biased against technology, Mumford is unique in recognizing both the destructive as well as the constructive nature of mechanical technology (Hughes and Hughes 1990: 3). It may be useful to briefly note here two basic notions that Mumford continually highlights in his dialectical approach to nature: the reality of the natural world, and the crucial importance of human creative agency.

What was significant about technics – the tool – Mumford affirms, was that it brought humans into a closer contact with their environment, ‘not merely because it enabled him to reshape it, but because it made him recognize the limits of his capacities’. In their dreams humans are allpowerful; in reality, they had to recognize that the environment could be neither cajoled nor intimidated – for it had an independent existence (1934: 321). As he writes: ‘The concept of a neutral world, untouched by man’s efforts, indifferent to his activities, obdurate to his wish and supplication, is one of the great triumphs of man’s imagination, and in itself it represents a fresh human value’ (1934: 361).

But Mumford also emphasizes that humans, like other organisms, are creative beings, and do not simply adjust themselves, or merely adapt to the environment. Interaction between organisms and their environment, he writes, takes place ‘in both directions’, for if human life consisted solely in adjustment to the physical and social environment, humans would have left the world as they found it, and the machine would never have been invented. It is important then to recognize that humans, in part, create the conditions under which they live, and are not merely the ‘impotent prisoner of circumstances’. Citing Geddes, Mumford writes that: ‘every form of life . . . is marked not merely by adjustment to the environment, but by the insurgence against the environment: it is both creature and creator, both the victim of fate and the master of destiny’ (1934: 319).

In his conclusions to *Technics and Civilization* Mumford suggests that with the

development of neotechnics, humans may be able to restore a dynamic equilibrium in population, restoring the balance between birth and death rates, achieving a regional balance between industry and agriculture and finally restoring an equilibrium between humans and their environment:

This means first the restoration of the balance between man and nature. The conservation and restoration of soils, the re-growth wherever this is expedient and possible, of the forest cover to provide shelter for wildlife and to maintain man's primitive background as a source of recreation, whose importance increases in proportion to the refinement of his cultural heritage.

(1934: 430)

The development of neotechnic industry, which now embraces biotechnology, computers and electronic communications, has not heralded the kind of society that Mumford envisaged in the 1930s; the tempo of technology has not slowed down, if anything it has accelerated in recent decades, and technology now permeates ever more aspects of social life. Mechanistic philosophy is still the dominant ideology, and there has been no decoupling, as Mumford anticipated, of neotechnics from capitalism. If anything, science, technology and capitalism now form such an intractable alliance that neotechnics are not utilized, as Mumford always hoped, in the 'service of life', but rather to further the interests of global capitalism and state power.

Not surprisingly, when Mumford came to write *The Myth of the Machine* some three decades later, it is very different in tone from his earlier work. Its second volume, *The Pentagon of Power* (1970) is in fact largely given over to a substantial and passionate critique of what Mumford describes as the megamachine. Although the book has been described simply as a 're-hash' of his earlier work, and Edmund Carpenter dismissed Mumford as a scholar who was 'dogmatic, petulant and out-of-date', a grumpy old man out of touch with contemporary events (Hughes and Hughes 1990: 7), in fact *The Pentagon of Power* is a work of 'energy, invention and vast erudition', and provides a valuable summation of ideas that Mumford had been developing for decades (Miller 1989: 536). More important, it offers one of the most vibrant, substantive and devastating critiques of global capitalism and industrial power ever penned. In the text the concept of 'megamachine' is used by Mumford as a general rubric or metaphor to depict some of the essential features of the modern age – technocratic and bureaucratic control, militarism and imperial expansion,

capitalist exploitation, the regimentation of social life and totalitarian state power. He continually refers to the megamachine as a 'power system', and discusses at some length its general characteristics. Here I shall briefly touch upon some of Mumford's more salient observations.

One thing that Mumford emphasizes is that the dominant ideology of the megamachine suggests that humanity has only one important mission in life – namely, to conquer nature by means of technology. It is an ideology that is thoroughly technocratic. Thus the emphasis is on automation and on the mass production of goods, and progress is viewed as entailing more productivity, more power and more profit. There is an obsession with speed and homage is paid to what Mumford describes as 'giantism' or 'technological exhibitionism', expressed in such buildings as the World Trade Center in New York. In its political aspects the megamachine propagates a 'permanent state of war', and this justifies its survival and expansion – reflected in the secrecy surrounding government agencies and in the arbitrary powers of the state and its bureaucracy. Using the techniques of a 'permanent crisis' (now reflected in the current 'war on terror') the governments of both the United States and of Russia have consolidated their powers in the postwar years to such a degree that Mumford describes them as 'totalitarian' or 'absolutist' (1970: 270–271). This has entailed the emergence of a military – industrial – scientific elite, or what Mills (1956) earlier described as a 'power elite'. In the process scientists are no longer simply engaged in a disinterested pursuit of knowledge, but have become a kind of 'priesthood', subservient to the needs of the military, the government and corporate interests. Making an analogy with early civilizations such as Egypt, Mumford suggests that scientists have become 'willing servants of the Pharaoh' (1970: 269).

Nuclear power, the computer and electronic communication all serve to bolster the systems and techniques of total control. Since the Second World War, the 'garrison states', Mumford notes, have developed nuclear bombs in quantities sufficient to 'annihilate all life on this planet' (1970: 233). And, of course, they still have huge stockpiles of these 'weapons of mass destruction'.

Mumford also makes some telling criticisms of the writings of the likes of Marshall McLuhan, Buckminster Fuller and Teilhard de Chardin, suggesting that their technocratic mysticism tends to either denigrate earthly life or to offer an 'etherealized version' of the megamachine (1970: 293–320). Critical of the emphasis on space travel, Mumford offers an illustrative quote from the science

fiction writer Arthur C. Clarke: 'The dullards may remain on placid Earth, the real genius will flourish only in space – the realm of the machine, not of flesh and blood' (Mumford 1970: 311). Mumford thus emphasizes that much of science fiction and writings on technology are in fact 'anti-life'.

Although *The Pentagon of Power* has been described as belligerent in tone and highly polemical, as well as being a scathing attack on the 'megatechnical wasteland' of contemporary global capitalism, Mumford is far from being a 'prophet of doom' (as sometimes depicted), for he always expresses a stubborn faith in the 'renewal of life' even under the shadow of the megamachine (Miller 1989: 541).

4

The Culture of Cities

Covering much the same ground as its companion volume, *Technics and Civilization*, in being a comprehensive account and interpretation of the history of Western civilization, *The Culture of Cities* (1938) is a truly epochmaking book. Mumford admitted collecting materials for the book ever since he had first encountered Geddes some two decades earlier, and emphasized that much of the data was based on ethnographic surveys of city life – especially with regard to New York and its immediate hinterland. A tour de force in urban sociology, the book is packed with insightful ideas and memorable phrases, and expresses a keen ecological sensibility. A popular work in its day, some scholars have suggested that it is now something of a ‘museum piece’; but *The Culture of Cities* ranks with the works of Le Corbusier in having had a profound influence on city planning – in directions that contrast markedly with that of the Swiss-born French architect and painter. In fact, Mumford was highly critical of Le Corbusier’s ‘highmodernist city’ and his suggestions for a ‘mechanical metropolis’, noting that Le Corbusier simply combined baroque formalism with a machine ethos. The extravagant ‘high-rise structures’ that Le Corbusier and his acolytes championed certainly matched, Mumford avers, the bureaucratic and technocratic requirements of capitalism ([1938] 1970: x; on Le Corbusier, see Scott 1998: 103–46).

The Culture of Cities is a historical account of the rise of the modern ‘European’ city, and Mumford discusses its development in terms of four contrasting urban forms (or phases), namely, the medieval town, the baroque or capital city which emerged around the eighteenth century with the development of the Nation State, the industrial town of the paleotechnic era and, finally, with the continuing centralization of power, the metropolitan city – or what Mumford describes as the ‘megapolis’. As in *Technics and Civilization*, and in rather Hegelian fashion, Mumford envisages the possibility of the demise of the megapolis, and the emergence of more balanced urban communities – regional cities with more abundant life and social economies. The city, for Mumford, was a complex and multifaceted social phenomenon. It was, on the one hand, a ‘product of the earth’, that began with permanent agriculture,

the very existence of the city depending on the surrounding countryside. On the other hand it was the locus of concentrated power and the culture of a society, for the city, Mumford writes, is 'the seat of the temple, the market, the hall of justice, the academy of learning' ([1938] 1970: 3). The city, for Mumford, was not only a product of time and the human imagination, it was also a fact of nature, or as he graphically put it, 'like a cave, a run of mackerel or an ant-heap'. Yet it was also a conscious work of art. Having arisen out of human social needs the city is seen as primarily a 'social emergent' and represents both the 'humanizing' of the natural environment and the 'naturalizing' of the human social heritage. Like language itself, Mumford emphasizes that the city remains 'man's great work of art' ([1938] 1970: 5–6).

In fact, Mumford is quite lyrical about the city, comparing it with an orchestral symphony, though cognizant of the urban conflicts and the political tyrannies that have also flourished within the city. Like Geddes, however, Mumford felt that ideally the city should embody and reflect the cultural heritage of a specific ecological region ([1938] 1970: 7).

Following Mumford, I shall discuss each of the four forms of urban life in turn.

The Medieval Town

The medieval town, for Mumford, was neither the embodiment of Christian faith and virtue, nor was it to be seen as the 'unredeemed compound' of filth, brutality, ignorance and superstition, for this was how many later scholars had come to portray such towns (Mumford 1961: 363). Equally, a viable account of the medieval town also needed to be critical of the rather romantic portrayals of the period – the 'charming tapestry' as depicted by the likes of John Ruskin and William Morris. As Mumford stressed, the Middle Ages was not only a time of vibrant craftsmen and heroic warriors, it was also a period of important technical innovations (discussed in his earlier study) and of embryonic capitalist enterprise ([1938] 1970: 14).

The period between the fall of the Roman Empire and the eleventh century is usually described as the 'Dark Ages' – a period of violence, turmoil and uncertainty, particularly for the feudal serfs. An age of 'incurable terror', as Mumford describes it. It is out of this Romanesque context, however, that the first European towns emerged, as fortified walled settlements, often perched high on a rocky hillside. This walled enclosure system not only gave protection for the populace, becoming 'blessed islands of peace' – a 'container' as

Mumford puts it – but also becoming a ‘magnet’ for many social activities. Primary among these was industrial production and trade. These walled towns thus came to hold regular markets. Unlike Henri Pirenne, who wrote a classic account of the medieval city (1925), Mumford did not view the development of trade as the critical or only factor in the development of the medieval town; rather he suggests that the development of the ‘protected’ towns encouraged the trade – local, regional and international – especially in such commodities as wool, leather and textiles ([1938] 1970: 19, 1961: 296).

From the eleventh century the development of a class of merchants and the granting of corporate freedom to the medieval cities, together with mechanization and an increase in industrial production, all helped to expand the social life of these cities. There is in German a saying: ‘city air makes people free’, and although Mumford acknowledges that freedom, corporate equality and democratic participation were never fully achieved in any medieval town, nevertheless, compared with the feudal order, there was a measure of freedom, and for a brief period, ‘communitas’ triumphed over ‘dominium’ (1961: 292).

But the thriving life of these medieval towns was rooted, Mumford argues, in the agricultural improvements that were then taking place in the countryside. Indeed, Mumford asserts that it is an illusion to separate the town from the country. For along with an increase in the population, the countryside itself was transformed during this period. Between the eleventh and thirteenth centuries there was thus an immense expansion of arable land, which involved the clearing of woodlands, until then largely wilderness areas. Terraced vineyards were constructed, land was reclaimed in many lowlying regions, watermills and windmills became common, and agricultural irrigation was practised, Mumford tells us, as early as the twelfth century. During the course of three centuries much of Europe as we know it today was opened up for settlement. The colonization of New England from the seventeenth century onwards, Mumford suggests, followed a similar pattern ([1938] 1970: 22–24, 1961: 301).

Mumford also puts a strong emphasis on the rural character of the medieval town, for vegetable gardens, orchards, and common open spaces were all to be found within the urban context. Thus the medieval town, for all the crudeness of its situation – the disposal of human excreta and waste – enjoyed healthier living conditions than has generally been recognized. Crude sanitation, Mumford writes, ‘is not necessarily bad sanitation’, and he notes also the importance of dogs, chickens and pigs as town scavengers. In medieval times, Mumford writes,

‘the pig was an active member of the local Board of Health’ ([1938] 1970: 44–46, 1961: 333–334). The collective provision of drinking water, legislation forbidding the dumping of garbage into ditches or rivers, municipal baths, preventative measures to control infectious diseases – all these led Mumford to conclude that the majority of medieval towns were ‘immensely superior’ in terms of hygiene and sanitation to the industrial towns of the nineteenth century. And there was, he avers, far less noise pollution: ‘One awoke in the medieval town to the crowing of the cock, the chirping of the birds nesting under the eaves, and to the tolling of the hour in the monastery on the outskirts’ ([1938] 1970: 46–50, 1961: 339–42).

Three other social institutions are discussed by Mumford as being ‘formative elements’ in the development of the medieval city: the monastery, the craft guild and the Catholic Church.

The monastery, as a close-knit fraternity of like-minded people, Mumford describes as a ‘new kind of polis’. An institution that was not only a formative influence in the development of the medieval town, the monastery also kept alive the ‘heavenly city’ ideal first mooted by St Augustine of Hippo in his classic text *The City of God*.

The guild was even more significant in the development and structuring of the medieval town, merchant and craft guilds playing an important role in economic life. The guilds regulated the conditions of economic exchange, protected craftsmen from unfair competition and adverse outside influences and established standards of workmanship, as well as protecting consumers from undue extortion. Originally religious fraternities under the patronage of a saint, the guilds, Mumford notes, provided Kropotkin (1902) with many examples of mutual aid. The guild and the city were thus inextricably linked, and Mumford writes that ‘the guilds are the city in its economic aspect, and the city is the guilds in their social and political aspects’ – for the town hall, the guild hall and the market-place were all key arenas of municipal social activities ([1938] 1970: 29–31, 1961: 312–315).

The common term for all guilds in the twelfth century was ‘universitas’, and Mumford suggests that the universities which were established in the eleventh and twelfth centuries – for example, in Paris, Bologna and Cambridge – were also in an important sense guilds – laying down the basis for the co-operative organization of knowledge. Noting that the university of the present day still

exhibits the professional conservatism and exclusiveness of the guild system, Mumford also emphasizes that some of the major contributions to scientific knowledge, from Newton to Einstein, have been made in fact *outside* of the university setting ([1938] 1970: 33–34, 1961: 318– 319).

The final formative element discussed by Mumford is the Catholic Church, which was a dominant influence during the medieval period. In a very real sense, Mumford writes, the medieval city in Europe was a collective structure ‘whose main purpose was the living of a Christian life’. An institution with manifold functions, the Church was a universal association. Of especial significance, besides the cathedrals and monasteries, were the shrines and sites of holy relics, for these were the focus of important religious pilgrimages (1961: 308).

Around the sixteenth century, with the growing importance of international commerce, the medieval city, along with its guild system, began to decline in influence. The locus of power shifted to the national capital, or what Mumford terms ‘the baroque city’. These were intrinsically linked to the rise of the modern state, a topic that was famously discussed by Mumford’s mentor, Peter Kropotkin (see Morris 2004: 191–205).

The Baroque City

Mumford writes that ‘Human institutions do not die like biological organisms. Fragments of culture continue to live long after the society that originally sustained them has passed away’ ([1938] 1970: 73). Thus aspects of medieval culture continued to be relevant, he felt, at a later period. Nevertheless, between the fifteenth and eighteenth centuries a new urban complex is seen by Mumford to have emerged. This he describes as the baroque order: ‘The new pattern of existence sprang out of a new economy, that of mercantilist capitalism; a new political framework, mainly that of centralized despotism or oligarchy, usually embodied in the national state; and a new ideological form, that derived from mechanistic physics’ (1961: 396).

This implied the break-up of the medieval order, and a decline in the power of the Catholic Church, and thus the institutional separation of religion, trade and politics. It also involved a shift of emphasis from medieval universality to baroque uniformity; from medieval localism to baroque centralism, with the consolidation of political power under a royal sovereign. Such power in turn was focused in a national capital, the baroque city. In contrast to the medieval

regime, power and population were no longer dispersed and decentralized, and after the sixteenth century those cities which increased most rapidly their population, territory and wealth – cities such as London, Paris, Naples, St Petersburg and Berlin (all with populations of over 100,000) – were those which harboured the royal court – ‘the fountainhead of economic power’ (1961: 407).

It has to be recognized that Mumford used the term ‘baroque’ less as an aesthetic or architectural concept than as a ‘social description’, to refer essentially to the formal city layouts – the gridiron system, the emphasis on straight streets and avenues, and the geometrically-ordered gardens and landscape designs of the baroque city. *Law*, confirming the power and status of the ruling classes, *order*, based on mechanistic principles, and *uniformity*, as expressed in the growing bureaucracy – these, Mumford argues, were the essential characteristics of the baroque city ([1938] 1970: 82, 1961: 420). Mumford sums up the shift in urban experience as follows: ‘the age of free cities, with their widely diffused culture and their relatively democratic modes of association, gave way to the age of absolute cities’ (1961: 408).

Discussing in some detail the politics of the baroque cities, as capitals of the absolute states, Mumford highlights a number of important themes. Firstly, the role that warfare played in the consolidation of both the modern state and capitalism. The advent of standing armies not only gave protection and support for capitalist expansion and colonial exploitation, but subjected the proletariat in Europe to a mode of government ‘no less ruthless and autocratic’ than that which accompanied the plunder of India, Mexico and Peru. The gun, the cannon and the standing army helped to produce a class of rulers who recognized no other rule than their own ‘will and caprice’ – hence Mumford’s depiction of them as ‘despots’. The army barracks, Mumford goes on to suggest, played almost the same role in the baroque order that the monastery played in the medieval one – with its emphasis on drill, regimentation, uniformity and the use of parades (instead of religious pageants) as mass spectacles. Long before Foucault, Mumford suggested that the army provided a ‘model’ for new forms of discipline, that were later copied by the nineteenth-century industrialists. They too governed their factories, he suggests, like ‘absolute despots’. Interestingly, Mumford notes that in the eighteenth century the military population of Berlin formed around 24 per cent of the total population of the city – then around 90,000 ([1938] 1970: 88–89, 1961: 415–16).

Secondly, with the development of capitalism and its accompanying mechanistic

modes of thought, not only was there an emphasis on method, on vision and perspective, on mechanical time, and on associating space with order and measurement, but also the notion of 'limits' tended to be erased: 'The merchant cannot be too rich; the state cannot possess too much territory; the city cannot become too big. Success in life was identified with expansion'. This 'superstition', as Mumford describes it, still has its adherents, and still attracts contemporary economists with their concepts of 'growth' and their notion of an 'indefinitely expanding economy' ([1938] 1970: 93, 1961: 420).

Finally, Mumford highlights the importance within the baroque order of the royal court and the daily parade of the powerful along the wide avenues of the baroque city. Many of the rituals and much of the social life of the baroque court anticipates, Mumford suggests, that of the late metropolis – the aristocratic love of speed, the new luxury of privacy, the rituals of conspicuous consumption, the aesthetic elaboration of erotic life and the improvement of 'manners'.

With regard to the grand avenues of the baroque city, Mumford notes that 'the rich drive; the poor walk' (a statement that still has a resonance in many American cities) and that it is significant that Napoleon III sanctioned the razing of the ancient medieval streets of Paris – 'the last refuge of urban liberties' – in order to make way for wide boulevards. The daily parade of the powerful, Mumford concludes, was one of the 'principal dramas of the baroque city' ([1938] 1970: 97, 1961: 423–424).

What is significant with respect to Mumford's account of the eighteenth century is that he saw an intrinsic relationship between capitalism, in the mercantile form, state power, with its two primary 'agents' – the bureaucracy and the standing army – and the emergence of the baroque city. Capitalism, in particular, with its 'destructive dynamism' undermined the guild system and all forms of local autonomy, and turned land within the urban context into a commodity. He sums up the impact of commercial expansion as follows: 'In is emphasis on speculation, not security, upon profit-making innovations, rather than on value, conserving traditions and continuities, capitalism tended to dismantle the whole structure of urban life and place it upon a new impersonal basis: money and profit' (1961: 475). It is of interest that Mumford makes no mention of the English 'enclosures' which was a prime example of what E.P. Thompson described as 'class robbery' (1963: 237).

While in the late medieval period 'freedom' meant freedom from *feudal*

restrictions, freedom for the guilds and municipality, in the new trading cities – the baroque order – ‘freedom’ meant something quite different. It meant freedom to accumulate capital wealth and to generate profit ‘without any reference to the welfare of the community as a whole’ (1961: 474). However, with the development of industrial capitalism in the paleotechnic era, there arose, during the nineteenth century, a quite different urban form – the industrial town.

The Industrial Town

During the nineteenth century the destruction and disorder within the cities of Western Europe is described by Mumford as like that of a ‘battlefield’. Out of this confusion a new type of city was created which, following Charles Dickens in his novel *Hard Times* (1854), Mumford refers to as ‘Coketown’, or alternatively as the ‘insensate’ industrial town. The generating ‘agents’ of this new town were the factory, the coalmine and the railway. The exploitation of coal as a new form of energy, the increased production of iron, and the advent of the steam engine all provided the economic foundations of this new type of urban life. The industrial town is thus the outcome or counterpart of the paleotechnic phase of industry.

With regard to its political basis, Mumford suggests that the industrial town rested on three main pillars: the abolition of the guild system and thence the creation of a state of permanent insecurity for the working class; the existence of colonial dependencies which provided necessary raw materials for the new industries as well as a market for industrial products; and, finally, a competitive market system.

Industrialism, as the main creative force of the nineteenth century, thus produced the industrial town, which Mumford describes as ‘the most degraded urban environment the world has yet seen’. To a lesser or greater degree, all the cities of Western Europe were stamped, he affirms, with the characteristics of Coketown ([1938] 1970: 144–145, 1961: 508–509). Mumford discusses the characteristics of the industrial town in relation to four topics: mechanistic philosophy, the implication of mining, the factory ethos and the urban slum.

The leading natural philosophy of the nineteenth century was that of mechanistic philosophy. This philosophy, derived from the seventeenth century, combined an emphasis on mathematical order and mechanical regularity, with an atomistic

conception of matter. The mineworkers of the late medieval period, Mumford suggests, were closely associated with the alchemists, who transformed what was essentially a mechanical process into a scientific methodology. What was significant, he argues, was that neither the systematic analysis of matter, nor the conception of a mathematical order, had 'any place for organisms and societies'. The machine alone was seen as the embodiment of this order. Mining carried this atomistic or 'destructive imagery' into other domains of social activity, sanctioning, Mumford writes, 'the anti-vital and anti-organic' ([1938] 1970: 149, 1961: 512).

Making an important contrast between mining and agriculture – at least agriculture in its earlier organic form – Mumford suggests that agriculture tends to create a 'balance' between wild nature and human social needs. The ploughed field, the vegetable garden and the vineyard are all seen by Mumford as examples of 'disciplined purpose, orderly growth and beautiful form'. In contrast, mining, and from the 1830s onwards, the railroad, tended to be more destructive towards the environment. While the canals of the eotechnic phase brought a 'new element of beauty into the rural landscape', mining and the railroads, he argues, brought debris, smoke, noise and dirt, even into the heart of the towns ([1938] 1970: 150, 1961: 513).

Thus industrial capitalism set in motion what Mumford described as *abbau*, or 'unbuilding' – a decline in ecological complexity. Drawing on the work of the American naturalist William Morton Wheeler (1928), another much-neglected scholar and pioneer ecologist, Mumford suggests that what this entailed was a serious degradation of the environment: 'forests were slaughtered, soils were mined, whole animal species, such as the beaver, bison and wild pigeon, were practically wiped out, while the sperm whale and right whales were seriously decimated'. A radical disturbance in what Mumford describes as the 'natural balance' of organisms, followed, from 'Western man's ruthless exploitation of nature for the sake of his temporary and petty profit economy' ([1938] 1970: 151, 1961: 514). Over half a century later Joel Kovel (2002) was to emphasize, in allegedly a highly original text, that capitalism is the 'enemy of nature' without ever mentioning Mumford.

This wanton destruction of the environment was greatly abetted by the philosophy of utilitarianism, which was widely propagated in the early nineteenth century. Associated particularly with Adam Smith and Jeremy Bentham, this philosophy proclaimed that the laissez-faire capitalism would

express and engender a 'preordained harmony' that would maximize the public good. This doctrine, Mumford suggests, was akin to a 'theological belief' and, rather than producing social inequalities and environmental squalor were demanded by the utilitarian was in reality simply the freedom of capitalists to generate unlimited profits. In the process the laissez-faire doctrine, with its emphasis on private profit, destroyed the notion of a co-operative polity and discredited municipal authorities and the interests of local communities. But then, as at the present time, the oligarchy of capitalists, industrialists and financiers was essentially 'two-faced': for while trumpeting laissez-faire (i.e. free market capitalism), they sought their own special kinds of monopoly 'through patents, trademarks, special subsidies, tariffs, and exclusive rights of exploitation in colonial markets', as well as calling on the forces of the state to defend their property and to suppress any political uprisings on the part of the working classes ([1938] 1970: 156).

harmony, increased social

the result. The 'freedom'

The two main elements of the new urban complex were the factory and the overcrowded slum. The factories, often sited near rivers (for a good water supply was necessary for production), led to a serious deterioration of the environment. Rivers became open sewers and dumping grounds for industrial waste, and air pollution was also a serious hazard. I earlier noted the poverty, the overcrowding and squalor, the widespread disease and environmental degradation associated with the paleotechnic phase. A lack of pure water, a lack of fresh air, a lack of a varied diet – all these were common among the working classes, and Mumford describes the environment of the industrial towns as being completely antithetical to human well-being: dull, colourless, acrid, insensate, evil-smelling, life-denying ([1938] 1970: 193). Mumford is equally critical of the factory system itself, suggesting that 'The factory maintained the coercion of the prison: the enforced silence, the repetitive routine . . . the constant surveillance of the foreman'. Thus the spread of the industrial town entailed the growth and extension of a 'dreary prison environment' ([1938] 1970: 180).

The widespread antisocial behaviour, the violence and brawls, and the pervasive drunkenness associated with life in industrial towns during the nineteenth century Mumford interprets as essentially a 'reaction', on the part of the working class to a dismal and unsatisfying urban environment ([1938] 1970: 180). But Mumford also emphasizes the more positive responses to the paleotechnic

‘drama’ – the ‘silent heroism’ of the working classes, the preaching of the gospel of socialism and the creation of trade unions and the Co-operative Movement. From the depths of the proletariat came a vision, he felt, of a more benign social order and a more humane way of life than that possible under mechanistic capitalism ([1938] 1970: 174).

Noting also the romantic reactions of scholars like John Ruskin and William Morris, and the cult of the picturesque, Mumford is critical of the latter’s anti-communal emphasis. What was needed, he suggests, was the creation of a ‘liveable landscape’, not a picturesque one. To experience nature as ‘untouched and unspoiled’ humans must develop systems of communal control, and refrain from opening up the landscape to ‘competitive ownership’ – that is, reducing all land to a commodity ([1938] 1970: 203–204).

While those who applauded the triumph of industrial capitalism tended to be contemptuous of the countryside, nevertheless there developed, particularly among the middle classes, an ‘impulse’ to escape the paleotechnic environment. There was a yearning to enjoy the tranquillity and benefits of the ‘rural life’. Thus emerged what Mumford describes as the ‘romantic suburbs’. This type of segregated, one-class community enabled the middle classes to have the best of both worlds: living in suburbia enabled them to profit from the goods of industrial capitalism while avoiding its evils; the illusion of an innocent rural world could be preserved and domesticity flourish, while the middle classes could forget the exploitation upon which their comfortable living was based. Mumford was later to describe suburbia as a ‘sort of green ghetto dedicated to the elite’, or as an ‘asylum for the preservation of illusion’. Although recognizing the many virtues of the ‘suburban way of life’, in its attempt to recover what was missing in the industrial city, Mumford was nevertheless very critical of this form of urban living. It tended to be a segregated way, expressed in the smug Victorian phrase, ‘we keep ourselves to ourselves’, and it thus lacked, he writes, the necessary elements ‘for extensive social co-operation, for creative intercourse, for an expansion of the social heritage as a whole’ ([1938] 1970: 215– 217, 1961: 561–564).

The Megalopolis

At the end of the nineteenth century, with the development of monopoly capitalism and with the tremendous increase in human population that took place during that century, there arose a new form of urban life, the metropolitan city.

This is described by Mumford as a 'megapolis', for by 1900 many metropolitan cities, such as New York, London, Paris, Chicago, Moscow, Vienna and Tokyo, had more than a million inhabitants. There was thus, he felt, a significant shift in the centre of gravity towards the end of the nineteenth century, from the industrial town to the metropolitan capital, which had by then become the centre of economic and financial power. The metropolis, for Mumford, was largely the result of a 'feverish concentration of capital and the military and mechanical means of exploitation' ([1938] 1970: 225, 1961: 602).

Like C. Wright Mills in a later generation, Mumford discusses the megapolis in terms of a coalition of interests, a 'power elite' that involved the 'increasing interlocking of economic, military and political structures' as Mills put it (1956: 8). This coalition of the 'agents of power' involved the landed aristocracy, the political bureaucracy and the army, who endeavoured to align 'national interests' with the needs of the industrial capitalist, as well as the new financiers. All were engaged in effecting the 'maximum amount of pecuniary exploitation' ([1938] 1970: 224).

Many have come to see the megapolis as the final stage of the urban development, and to suggest that, like capitalism, there are no alternative forms of social life. Mumford thought otherwise. His writings on the megapolis are, therefore, largely given over to discussing the 'formidable negative aspects' of contemporary metropolitan civilization. He emphasizes the scale and extent of areas that are now under 'urbanization' and notes that whereas in the past the city had been a kind of island within a wide agricultural landscape, nowadays productive agriculture and the countryside were under siege, slowly disappearing under a 'sea of asphalt, concrete, brick and stone' (1961: 603).

Among the many negative aspects of the expanding megapolis that Mumford discusses, the following are of particular interest. One is the concentration of economic power in the metropolis which Mumford suggests comes to be dominated by a 'new trinity': finance, insurance and advertising. This involves both an expansion of international commerce and the spread of bureaucracy – its 'tentacles' impacting on many aspects of social life. Emphasizing that the greatest development of bureaucracy took place within business corporations, Mumford notes that the housing of this bureaucracy in large office buildings is one of the major expressions of metropolitan expansion. Mumford continually alludes to the fact that the concentration of wealth and power is a typical metropolitan phenomenon, noting that 'about two hundred corporations control

about half the industrial capital of America' ([1938] 1970: 231, 1961: 613).

Within metropolitan culture, advertisements, Mumford suggests, have become a form of 'spiritual power'. Shopping – motivated by an ethic of 'acquisitiveness' – recreation and cultural life, for many people, were little more than 'spectacles' to stave off boredom and social isolation. These 'spectacles', exemplified by mass sporting events and motion pictures, tend to make people indifferent to the values of life, and are thus functional to the interests of the exploiting classes ([1938] 1970: 269).

Another negative aspect of the megalopolis, discussed by Mumford, is the problem of traffic congestion and the fact that a vast amount of time and energy, money and human vitality, is spent transporting people between 'dormitory and workplace' – an activity that has no value at all in itself ([1938] 1970: 243). Congestion, Mumford suggests, is visible in every phase of city life, and for the sake of rapid transportation the city has become almost uninhabitable. Besides emphasizing the fact that some 40,000 people in the United States are killed each year in traffic accidents (and many thousands injured) Mumford writes: 'with the increase in private cars, the streets and avenues become parking lots and to move traffic at all, vast expressways gouge through the city and increase the demand for further parking lots and garages'. In the act of making the centre of the metropolis readily accessible, city planners have made it almost unfit for human habitation ([1938] 1970: 243). Congestion and expansion are seen by Mumford as complementary processes, and he employs the metaphor of a 'bursting container' to describe the outcome of the increasing concentration of political, technological and financial power within the megalopolis (1961: 627).

A further negative aspect of the megalopolis, broached by Mumford, is that urban living tends to divorce people from the natural world – 'from the soil, from the visible presence of life and growth and decay, birth and death'. The rhythm of the seasons disappears and the metropolitan world becomes a rather sterile, rootless one, removed from the sources of life, and from the more vital aspects of the countryside. These were essential, Mumford felt, for human well-being ([1938] 1970: 253–255). The megalopolis is therefore inimical to human life. A testament to the life-denying aspects of metropolitan culture is David Abram's study *The Spell of the Sensuous* (1996), although Abram's exoticism leads him to conflate his own urban experiences in the United States with Western culture generally, which in turn is equated with mechanistic philosophy.

In a section significantly entitled ‘A Brief Outline of Hell’ Mumford suggests that the close association of the metropolitan order with imperialism – the growing war – bureaucracy and the violent paranoia associated with the cult of ‘patriotism’ could only lead to barbarism. His anticipations now seem justified, for two years later the Second World War erupted ([1938] 1970: 272–278).

Some two decades after the publication of *The Culture of Cities* Mumford completely rewrote the text, greatly expanding the early historical sections. The outcome was his monumental study *The City in History* (1961) which runs to over 650 pages. And it is in this book that Mumford gives a very graphic metaphor for contemporary Western civilization, describing it as a ‘gigantic motor car moving along a one-way road at an ever-accelerating speed’ (1961: 636).

But like Kropotkin, Mumford did not view metropolitan civilization – the city – as an unmitigated disaster, for civilization itself had a dual aspect; what Murray Bookchin describes as the legacy of freedom and the legacy of domination (1999: 278). For the city owes its existence to efforts that have been made to establish systems of domination (over both humans and the natural environment); but it has also engendered forms of reciprocity and widened the realm of freedom and cultural possibilities (Mumford 1961: 635–636).

Mumford thus saw the need not to abandon city life entirely but rather to reconstitute the metropolis, and to create a new regional order that both sustained and developed the best elements of urban culture. It would also mean bringing ‘life values’ back into the city. This would entail curbing the continuous expansion of urban areas, and being critical of the obsession with what Mumford describes as ‘sprawling giantism’ – large-scale technology. Machines and buildings should be on a ‘human scale’ consonant with a ‘lifecentred’ human culture.

The final chapters of *The Culture of Cities* are devoted to an exposition of an ‘organic worldview’ and suggestions for establishing a regional framework for human civilization. Both these topics I shall discuss in Chapter 7.

5

Western Culture and its Transformations: The Rise of Mechanistic Philosophy

Mumford, it has to be emphasized, was fundamentally a historical thinker, whose main mentors, along with Patrick Geddes, were John Ruskin, Peter Kropotkin, Karl Marx, Thorstein Veblen and the process philosopher, Alfred North Whitehead. Highly critical of the ‘anti-historic nihilism’ of mechanistic philosophy, as well as of many contemporary movements (such as Dadaism), Mumford always affirms the importance of history, especially at a time when he felt that Western civilization was in crisis, with the rise and spread of the ‘megamachine’ and its ‘avant-garde’ cultural manifestations. As he writes: ‘If we have not time to understand the past, we will not have the insight to control the future: for the past never leaves us, and the future is already here’ (1944: 14).

History, for Mumford, as a ‘reservoir’ of human creativeness, is the dynamic working out of the ‘drama’ of a culture. The human species, he continually stresses, is the ‘unfinished animal’ and human nature is essentially one that is ‘self-surpassing and self-transcending’. Culture, or humanity’s ‘second nature’ is therefore of crucial importance to the understanding of human life, for it ‘complements’ the ‘ecological partnership’ that humans necessarily forge with the earth and all other life forms (1944: 7). Like every other organism, human beings are in constant interaction with their environment, but Mumford affirms that human culture – ritual, poetry, art, music, philosophy, science, drama, religion, mythology – is as essential to human life as the organic links which provide the daily bread (1944: 9). There is thus always a constant interplay between the subjective or ‘inner world’ of humans and their external environment, for culture is never completely detached from nature – ‘the larger groundwork of existence’ (1944: 11). Cultural life, expressed through symbols and language, is not, Mumford insists, a ‘vicarious substitute’ for experience, rather it is the means of enhancing and enlarging its scope (1944: 9).

The introduction to the third volume of Mumford’s *The Renewal of Life* series, *The Condition of Man* (1944), has a brief account of Mumford’s organic

philosophy – which I discuss in Chapter 7 – but the text itself is given over to a description of what Mumford terms the tangled elements of ‘Western man’s spiritual history’. Lucid, scholarly and wide-ranging, and with a pronounced prophetic tone, *The Condition of Man* is thus a history of Western culture, or more accurately, of the Western intellectual tradition.

The book begins with a historical survey of Greek and Roman culture, which many have seen as the ‘fountainheads’ of Western civilization. Though natural science has its origins in the early writings of Thales and Anaximander, the dominant modes of Greek experience, Mumford suggests, were aesthetics and theory – *theoria* – implying the reflective contemplation of nature. During the fifth century_{BC}, which Mumford considered the ‘heyday’ of Greek culture, nature and society were understood as a unity, and there was a unified conception of the human personality. This culture, Mumford suggests, had therefore a unified vision, embracing humans, society and nature, and a balanced approach to the issues of order and freedom.

Three topics, however, seem to have been of particular interest to Mumford. The first is the ecological approach to health and disease expressed by Hippocrates, the Greek physician who treated the patient rather than the ailment, and situated the person within the wider environment with respect to climate, air, water, soils, situation and food. Exercise, diet and regime were then the key factors in the maintenance of health (1944: 22).

Secondly, Mumford offers a critique of Plato’s utopian vision set forth in the *Republic*. Though approaching Plato’s classic text with some sympathy, Mumford nevertheless emphasizes that the ‘static order’ that Plato envisaged allowed little scope for human freedom, and that Plato failed to realize that growth and development were essential to all life forms, including humans. Political power, for Plato, rested in the hands of a ruling group of philosophers who were also mathematicians, and thus Plato left out of his utopia such vital elements as literature, music, drama and poetry, as well as the emotions (1944: 30). Mumford discusses Plato’s work more fully in his *The Story of Utopias* (1922: 11–56).

The final topic of interest examined by Mumford is the Greek doctrine of the *mean*, a notion particularly well expressed by Aristotle. It implied that ‘everything was good in due measure’. This suggested that a sense of balance must be struck between, for example, the rational and sensual, although

Mumford insists that even this doctrine cannot itself be pursued – ‘one cannot live a balanced life in an earthquake, a shipwreck, or a fire’ (1944: 33).

Mumford emphasizes the integrity of Greek culture, and its importance in the development of such conceptions as reason and democracy. Even so, he notes an inherent contradiction, in that the Greek polity was based in the institution of slavery. The history of Greece, Mumford felt, was therefore largely a struggle between the ‘free spirit of Hellas’ and political tyranny.

On Roman civilization Mumford has few positive things to say, while recognizing that Roman culture has made an ‘indelible imprint’ on the language, laws, ethics and culture of Western peoples. Surprisingly, he is unusually critical of Stoic philosophy, suggesting that it is the ‘creed of the soldier’ and a doctrine of ‘cosmic negation’, contrary to those scholars who have interpreted Stoicism as a form of pantheism. On the Roman Empire itself Mumford suggests that it involved little more than the systematic organization of terrorism, lust and violence, and through its circuses made torture and brutality into an aesthetic spectacle (1944: 45). The Roman Stoic philosopher Seneca, however, Mumford admits, is still worth reading, as he provides a link between Roman culture and Christian philosophy. Mumford certainly portrays Roman culture in rather stark and negative colours – an early exemplification of the megamachine.

In discussing the ‘triumph of Christianity’ in the ensuing centuries, Mumford makes a radical and significant contrast between the social message of Jesus of Nazareth and Christianity as it developed as an established Church institution. Less concerned with the rites of exorcism and the miracles that Jesus performed, Mumford acknowledges that the message of Jesus is somewhat ambiguous; nevertheless he interprets the founder of Christianity as a kind of life-philosopher, as well as a psychological mystic. In being concerned with the redemption of humanity, Jesus is viewed as advocating not life eternal, but rather eternal life, in a humanistic and naturalistic sense – an affirmation of ‘Natural life’, in life as a ‘perpetual process of self-transcendence and self-liberation’ (1944: 56–59). Mumford thus concludes that the vision of Jesus was ‘one of health, life, renewal’ (1944: 67).

The Christian Church, in contrast, allied to the Roman state during its disintegration (around the fourth century AD), is seen by Mumford as having betrayed the ‘spirit of Jesus’ – which had emphasized simplicity, equality, personhood and earthly existence. The Church, on becoming an ecclesiastical

polity, took over the tyrannical powers of the Empire itself, established a bureaucracy and a hierarchical system of ranks, each with their powers and privileges, and transformed the life message of Jesus into a new eschatology, focused on the Crucifixion as a 'symbolic pageant of Death'. Jesus himself, Mumford opines, was perhaps the 'first heretic' (1944: 75).

Mumford then goes on to discuss the important role that St Paul, St Augustine and St Jerome played in the development of the Church – in advocating a metaphysical dualism between the worldly and spiritual domains, in the downplaying of human reason in favour of Christian faith, and in promoting the denial and derogation of bodily pleasures and earthly existence. Mumford quotes from St Jerome: 'Regard everything as poison which bears within it the seed of sensual pleasure' (1944: 89).

As in *Technics and Civilization*, Mumford reiterates the important role that the Benedictine monastery played in initiating what Max Weber described as the 'spirit' of capitalism. The Christian monks, Mumford writes, were the first wearers of 'uniforms' in the modern sense, and monastic routine and economic practices put a premium on order, regularity, uniformity and regimentation. The Benedictines and their 'life-denying practices' thus laid the foundations of modern capitalism (1944: 94).

Between the eleventh and fifteenth centuries, at the end of the Romanesque period, there arose a specific cultural form that Mumford terms the 'medieval synthesis'. It corresponds to the eotechnic phase of industry, and to the emergence of the medieval city, discussed in his earlier studies. The medieval economy was based on feudal agriculture and in the corporate municipalities, which had important trading functions. But Mumford was less interested in the political economy of the medieval period than in describing certain cultural movements and institutions. These include: the origins of romantic or courtly love, well expressed by the twelfth-century troubadours; the building of Gothic cathedrals, for the Christian Church was the supreme institution in medieval society, and the cathedral its 'true epitome'; the establishment of the Franciscan order; and finally, the development of scholastic philosophy, the writings of Thomas Aquinas having, for Mumford, a special significance.

Known as the 'Dumb Ox' because of his bulky stature and slowness of movement, Aquinas was one of the greatest systematic thinkers of all time. A 'master of platitudes', as Mumford describes him, without meaning to be unkind,

Aquinas was not an original thinker, nor did he ever apply reason to the postulates of Christian theology. He refused, as Mumford put it, to challenge the authority of the Holy Writ, for this would have deprived his own faith of its 'absolute certainty' (1944: 136). Interestingly, Mumford suggests that theology was as much a Greek creation as philosophy, and describes the theology of Aquinas, expressed in his encyclopaedic *Summa Theologica* as being, in its technical detail, rather like a large nineteenth-century textile mill (1944: 131)! Aquinas, Mumford acknowledged, was a realist, and had a deep respect for the natural world. Yet the emphasis that Aquinas put on Christian faith and on formal logic also highlighted the many limitations of his scholastic philosophy – a lack of imagination, little in the way of an aesthetic sense, and a tendency to ignore the 'doctrine of life' that Mumford felt Jesus had fervently proclaimed. For Aquinas, not this earthly life, but the search for 'eternal life' provided the ultimate meaning of existence (1944: 131–132). In meeting the challenge of secular humanism and evolutionary naturalism the writings of Aquinas – Thomism – were, of course, proclaimed by the Pope in 1879 as the official philosophy of the Roman Catholic Church (1944: 137).

Mumford also offers an illuminating discussion of Dante's classic work *The Divine Comedy*, first published in 1472; indeed Dante's poem seems to have held a special fascination for Mumford. The discussion, however is but a prelude for the suggestion that humans do in fact live in 'two worlds', for the earthly life of humans involves also the existence of another 'transcendental world' – the world of durable meanings and values that in a sense 'detach themselves from the flux of history, and lose their narrow ties to time and place' – thus, in rather idealist fashion, Mumford asserts that human culture – religion, art, ethics, philosophy, poetry, science – is the ultimate agent for the 'self-transformation' of the human species (1944: 148).

What is of interest is that while he highlights the importance of Christianity during the medieval period, Mumford also writes of the significance of the 'dawn of naturalism' at this time. As a cultural perspective, empirical naturalism grew out of the daily occupations and economic activities of those working in the craft industries – in their 'struggle with obdurate materials, melting glass, hammering iron, hewing stone, beating copper'. In these activities humans learned to respect the nature of physical materials and the objective conditions of all worldly activity. Such naturalism, as a seminal theoretical perspective on the world, was particularly well expressed by the Franciscan scholar Roger Bacon, and by the Dominican, Albertus Magnus. Both men lived in the thirteenth

century and were great admirers of Aristotle. Albertus, an empirical naturalist as well as a theologian, was, of course, the teacher of Aquinas.

The accumulated richness of empirical naturalism, expressed in potmaking, basketwork, spinning and weaving, and other domestic arts, as well as in herbalism and agricultural work, was later to be denigrated and undermined, especially during the nineteenth century, with the advent of mechanized production, and the growing hegemony of mechanistic science. (Mumford 1970: 141–143).

Unlike Foucault (1970), who describes the medieval period in terms of a single episteme, Mumford recognizes the cultural diversity within Western society. As with Hindu and Chinese philosophy, Western culture ran through, as he puts it, all the variations from Naturalism to Platonism, Scepticism to Stoicism. There was then no great divide between Western culture and the cultures of Asia (Mumford 1957: 82).

Given the organic humanism that he espoused, Mumford acknowledged both the integrity and synthetic aspects of cultural forms and the diversity within them; the continuity of cultural transformations as well as the discontinuities within the historical record. And he clearly felt that after the bubonic plague, otherwise known as the Black Death, had ravaged through Europe during the fourteenth century, the ‘medieval synthesis’ tended to break up, producing a ‘break in Social continuity’ (1944: 155). Not only did this lead to a ‘corruption’ of Christianity – reflected in ascetic rituals, the cult of the Flagellants, the institution of the private confession, and the growing popularity of holy relics and pilgrimages – but also to an increasing scepticism towards theological doctrines.

Following the ‘break up’ of the medieval synthesis that was earlier embodied in the Catholic Church, three social institutions or movements emerged during the sixteenth and seventeenth centuries, which were to have a profound impact on Western culture. These were mercantile capitalism, political absolutism and the Protestant rebellion within the Church. All these topics, of course, have generated a wealth of literature, and Mumford summarizes a selection and interprets it in his own inimitable fashion.

Capitalism, for Mumford was the great heresy of the medieval period, and in many ways represented a challenge to the Christian faith. Yet he emphasizes that

this ‘heresy’ had been nourished within the ‘very bosom’ of the Church, and from the outset had received the support and protection of the papacy. Just as trade in the nineteenth century followed the flag, so from the thirteenth century onwards it followed the Cross. Capitalism in its ‘theological’ form thus had its own origins, according to Mumford, prior to the sixteenth century. He again reiterates the notion that many of the social aspects intrinsic to capitalism – thrift, order, mechanical regularity, uniformity – had earlier developed within the Benedictine monasteries. In other ways, however, capitalism undermined the church, along with many other medieval institutions, and laid the foundations for a very different moral order. The seven ‘deadly sins’ of the medieval Church became cardinal virtues, for ‘greed, gluttony, avarice, envy and luxury’ were all functional to capitalist industry, and Mumford suggests that in order to survive the Church tended to flout its own Christian doctrines. Avarice became thrift, and usury the reward for deferred enjoyment and the taking of risks. People were set to work now, not in order to maintain life, but to increase profit and power (Mumford 1940: 110–111, 1944: 162). A whole new moral outlook was thus engendered under capitalism, giving rise to a new type of personality – the ‘economic man’. This new ‘capitalist personality’ embraced quantitative thinking, made a virtue of avarice and acquisition and downplayed aesthetic and moral values. Even the notion of natural ‘limits’ was repudiated, capital itself having no limits (1944: 167–168).

Politics in the medieval period was to a large degree decentralized, but from the sixteenth century onwards there was a growing concentration of power, focused on the national capitals – the baroque cities which Mumford surveyed at length in *The Culture of Cities* (discussed in Chapter 4). This gave rise to the absolutist state, which, according to Mumford, was a form of ‘political despotism’. These newly-emerging nation-states revived the use of torture, propagated the ‘cult of uniformity’ and freely used violent methods to stamp out any dissent, silencing anyone who raised their voice against oppression. Like Kropotkin, Mumford emphasizes the symbiotic relationship that existed – and still exists – between capitalism and state power. As he put it: ‘financial concentration and political despotism went together’ (1944: 168; for a useful and illuminating discussion of the absolutist state in Europe see Anderson 1974).

A searching critique is made by Mumford of the two political philosophers whom he interprets as providing an ideological justification for the absolutist state – Niccolò Machiavelli and Thomas Hobbes. Machiavelli’s classic text, *The Prince* ([1532] 1953), Mumford describes as a ‘little handbook for despots’, and

he is particularly critical of the psychological aspects of Machiavelli's political theory. Machiavelli, while advocating a scientific approach to politics, had embraced wholeheartedly the Christian doctrine of 'original sin' – but he ignored completely the possibility of spiritual redemption. Thus the only means of checking the intrinsic baseness of humans was some form of despotism – the absolutist state. It is debatable whether Machiavelli completely subordinated moral standards to political objectives, but Mumford interprets the Italian philosopher as a political realist who accepted terrorism, corruption and violence as means of effective government. What Machiavelli seemed unable to acknowledge, according to Mumford, was that humans had the capacity for both goodness and evil, and thus he left out of his account the care, tenderness, sociality, freedom and loyalty that is evident not only among humans but even among animals (1944: 173).

Thomas Hobbes, likewise in his classic text *The Leviathan* ([1651] 1951), provides a justification, in secular terms, of the absolutist state, and famously the suggestion that in the state of nature humans are at war with one another, and that (tribal) life is therefore 'solitary, poor, nasty, brutish and short'. Hobbes, however, went further than Machiavelli in his absolutism, by linking despotic government to a mechanistic ideology – for despotism can succeed, Mumford writes, only if it can turn humans into automatons. Thus the factory system, instituted in the nineteenth century, is, in its rigorous centralization of power, a form of despotism. Even though the absolutist state attempted to ridicule and eradicate all forms of popular culture, Mumford emphasizes that democratic forms of social life continued to exist 'underground' – in the form of co-operative societies, friendly associations, religious fraternities and drinking clubs. He also noted that despotism needs not only prisons and regimented forms of association but also 'spectacles' to allow the expression of emotions and 'untempered eroticism' (1944: 178).

Recent anthropological knowledge has indicated that Hobbes' fanciful depiction of tribal society is even further from historical reality than Rousseau's description of the 'Noble Savage' (see Howell and Willis 1989). But Mumford emphasizes that Hobbes' one-sided portrait of life as a constant struggle for power motivated by fear not only justified the absolutist state, but became the foundation of practical schemes of imperialism as well as the Malthusian doctrine of the 'survival of the fittest' (Mumford 1970: 101–102).

While Max Weber saw an intrinsic link between the protestant sects and the rise

of capitalism, or at least with the emergence of the 'spirit' (ethos) of capitalism, Mumford viewed Protestantism as an anti-capitalism movement. It was an attempt, he argues, to check the commercial spirit and to prevent it 'getting hold of the Church' (1944: 182). Mumford suggests that protestantism was essentially a 'layman's rebellion', and that the early dissenters like Peter Waldo and John Wycliffe were against private property and preached a 'Christian communism'. Both the Peasants' Revolt of 1381 and the Diggers' movements associated with Gerrard Winstanley in the seventeenth century, were in essence against both feudalism and capitalist exploitation (for a lucid account of the communalism associated with Protestant Christianity see Rexroth 1975).

The two key figures of the Protestant 'rebellion', Martin Luther and John Calvin, Mumford subjects to a strident critique. Both men were sixteenth century professors of theology, as well as reformers, and both were powerful influences on the emergence of the Protestant sects, specifically the Lutheran and Presbyterian Churches. The political legacy of Luther Mumford interprets in a very negative fashion, for during the Peasants' Revolt in Germany Luther turned against the peasants and Mumford concludes that Luther was the Nationalism, and a precursor of Hitler's 'religion of power'. This is perhaps a supported the state. Indeed,

'early Bismarck' of German little unfair to Luther, whom theologians consider a 'spiritual genius' who had a profound impact on Western Christian thought. Mumford thought otherwise, and considered the 'absolutism' of twentieth-century fascism to have had its spiritual foundations in Luther (1940: 66, 1944: 187–188).

In contrast, John Calvin – 'a Cartesian before Descartes' – is treated more favourably by Mumford, for the French theologian emphasized the autonomy of local Christian congregations. Calvinism is thus described as the first expression of a new democratic order which made citizens equal on earth 'as their souls were supposed to be in heaven' (1944: 192). Though Calvin virtually set up a theocracy in Geneva in 1541, Mumford suggests that he distrusted both centralized authority and pure democracy, and thus advocated the kind of 'mixed' form of government that Mumford himself seems to have favoured, with democratic participation (1940: 218, 1944: 192).

Extremely critical of the bleak, ascetic and mechanistic aspects of Calvinism, Mumford actually suggests that the machine was the 'true symbol' of Calvin's

unrelenting God and his 'predestined order' – with its selfdenials, disciplinary code and dreary austerities – for love, enjoyment, wonder, delight and curiosity were prohibited in Calvin's legalized moral code (1944: 194).

Although Protestantism is viewed by Mumford initially as an anticapitalist movement, in its final form it encouraged the development of both capitalism and mechanism, and helped to make them both 'tolerable'. Thus Mumford concludes that the austere Protestant virtues – foresight, parsimony, order, thrift, punctuality, perseverance, sacrifice – all helped to create a new kind of economy and a new kind of personality – the capitalist, exemplified by John D. Rockefeller (1944: 199). In the end Mumford seems to support Weber's thesis. As Mumford himself puts it: 'The Protestant sought to curb the capitalist spirit and in the end he deepened its channels' (1944: 201).

From the fifteenth century onwards the dominant spirit of Western Europe was that of 'expansion'. This involved not only the exploration and colonization of the earth by European adventurers, explorers, traders, settlers and missionaries, but also an expansion of the heavens through the use of the telescope and the development of astronomy. With regard to the first form of expansion, the discovery of a geographical 'New World', Mumford writes that, 'Western man unfurled his sails to the wind and set forth to conquer . . . the unexplored seas and lands of the world' (1944: 232).

Important in this exploration was the three-masted schooner and the mariner's compass. The expansion and conquest of the 'New World' by Europeans had profound ecological implications, for within a few centuries humans had completely altered biotic relations in almost every part of the planet – upsetting the 'balance of nature' and crucially transforming the biological possibilities of existence (1944: 232; on the biological expansion of Europe see Crosby 1986).

The new colonists, through military force and deception, came to dominate and exploit these new regions; as Mumford puts it, Europeans 'ravaged, defaced and corrupted' the tribal peoples to whom they brought 'civilization'. In the process they ignored the cultures of these peoples, and the 'immense debt' they owed to them – for around half of the world's agricultural crops are derived from the Americas. Maize, potatoes, beans and tobacco were particularly important, along with rubber, during the nineteenth century (1940: 113, 1944: 249).

But the opening up of the 'New World', along with the development of

capitalism and technics, led to an expansion in another direction – the development of new ideas and a new ideology. With regard to this ideological ‘new world’ Mumford focuses on two topics, the utopian ideas that emerged from the sixteenth century onwards, offering visions of a ‘new commonwealth’ and the new ‘mechanical idolism’, otherwise known as ‘modern science’ or ‘mechanistic philosophy’ which arose during the same period.

Modern utopian ideas stem from the well-known work of Thomas More, simply called *Utopia* (1516). A devout Catholic as well as the Lord Chancellor of England, More’s general conception of a social utopia was that of a communistic society, embracing economic equality, and Mumford rightly suggests that More’s prophetic vision became a ‘working programme’ for the democratic and socialist movements that emerged in the nineteenth century (1944: 238). Other important utopias published in the seventeenth century include Johann Andreae’s *Christianopolis* (1619), Francis Bacon’s *New Atlantis* (1627) and Tommaso Campanella’s *City of the Sun* (1637). All these are fully discussed in Mumford’s first book *The Story of Utopias* (1922).

It is, however, the English scholar, Francis Bacon – who was also an ex-English Lord Chancellor – who most engages Mumford’s attention. Renowned as the founder of the British empiricist tradition and as a staunch and eloquent advocate of the scientific method, Bacon’s whole outlook on life, according to Mumford, was practical, concrete and utilitarian. He had thoroughly imbibed, Mumford suggests, the culture of his own period – one that was devoted to the worship of the twin gods: Mars (power) and Mammon (wealth). Though never questioning the importance and achievements of modern science, Mumford nevertheless suggests that it is a ‘half world’ and has led to a deep split in the ‘Western personality’. Influenced implicitly by the culture and personality school of American anthropology, Mumford had a great propensity for personifying cultural traditions. What he was suggesting, then, was that Bacon, somewhat prophetically, had heralded a stark division in Western culture, one that implied a radical separation of positive science from normative philosophy, of facts from values, and of causal knowledge from teleology, and a concern for human values and purposes.

Always stressing the need to combine scientific and humanistic knowledge, Mumford suggests that the new ‘worship of the machine’, stemming from Bacon, went hand-in-hand with a denial of human subjectivity and the importance of humane values. As he writes, one of the chief characteristics of

the ideological ‘new world’ of mechanistic science was ‘the progressive abandonment of the inner and the subjective in every form’. With respect to moral and aesthetic values, the human imagination and the arts, as well as the personal aspects of human experience – dreams, feelings, emotions, states of mind – the ‘inner world’ of humans was, Mumford argues, seen as essentially ‘unreal’ (1944: 243).

As the immediate precursor of the mechanistic philosophy that developed during the seventeenth century, Bacon is thus viewed by Mumford as overemphasizing the ‘mechanical arts’ as well as being an early technological determinist. The printing press, gunpowder and the magnetic compass, Bacon stridently affirmed, had ‘changed the experience and state of the whole world’ (1944: 245).

Besides cutting off the physical sciences from the other domains of social life – philosophy, aesthetics, morality, the humanities, everyday empirical knowledge – mechanistic science, as an *idolum* or cultural worldview, had a number of characteristics that Mumford highlights, and which I shall here itemize.

Firstly, viewing time as an abstraction, history as the cumulative registering of existence, was essentially discarded. Conceiving the world as a machine, time became mechanical and non-cumulative: ‘it accompanies only changes in motion, changes in position, both open to external observation’. This excluded, according to Mumford, the very stuff of subjective experience – sympathy, participation, imitation, empathy (1944: 247).

Secondly, mechanistic science rejected the complex data of actual human experience, placing the emphasis on another abstraction – on quantity, on what could be measured. Thus it tended to identify the quantitative with the real, and to view as ‘unreal’ or ‘secondary’ sensible qualities such as colours, sounds, tastes and smells. Feelings and emotions, too, were excluded and devalued. The metaphysical tenor of the seventeenth century, Mumford writes, created a ‘positive bias’ against feeling and emotion which were viewed as inimical to reason and pragmatic concerns. Mumford offers an apt quotation from the German astronomer Johannes Kepler:

As the ear is made to perceive sound and the eye to perceive colour, so the mind of man has been formed to understand not all sorts of things but quantities . . . but the further a thing recedes from quantities the more darkness and error inheres in it.

(1944: 248, 1970: 53)

A century later the Scottish Enlightenment philosopher David Hume made essentially the same observation, thus laying the foundation of positivism, with its rejection of metaphysics. Hume is interpreted by Mumford as essentially a nihilist who translated the practices and assumptions of mechanistic science into philosophical terms. Mumford recalls Hume's critique of 'divinity and school metaphysics' and recounts those oft-quoted words with which Hume concluded his book *An Inquiry Concerning Human Understanding* (1748):

Let us ask: Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matters of fact and existence? No. Commit it then to the flames for it can contain nothing but sophistry and illusion.

(1944: 247–48, 1970: 64)

This aphorism, of course, became a clarion call and a guiding principle for the later logical positivists. Mumford simply notes that Hume failed to take account of his own 'illusions' – the status of his own philosophy.

Thirdly, the emphasis on mathematics, geometric order, precision and measurement meant that mechanistic science tended to completely exclude the organic aspects of life. In their embrace of mechanism and mathematics, scholars like Descartes, Galileo, Spinoza and Newton embraced 'clarity at the expense of life'. Their mechanical universe, Mumford writes: 'is clean, neat, orderly, without smells, without flavours, without the rank odours of growth, impregnation or decomposition: above all, without the complications of real life' (1944: 260).

Proponents of mechanistic philosophy thus tended to marginalize organic experience, as well as expressing a distrust of history. Equally important, this philosophy, with its overemphasis on the external, physical world, could find little conceptual space for subjective factors – memory, feelings, emotions, the unconscious – or for unique events and novel experiences.

Fourthly, the ideological 'new world' of mechanistic philosophy promoted what Mumford considered a 'false conception' of the human personality – that of an isolated, abstract, asocial individual – and this conception was most famously depicted by Rene Descartes in his phrase '*cogito ergo sum*': 'I think, therefore I

am'. Mumford points out that this claim already presupposes the existence of language, and thus of other selves and of human social life. The notion of an 'atomic individual' and of an opposition between the individual and society, Mumford, following Marx, Durkheim and a whole generation of social scientists, considered quite absurd. Personhood emerges, he argues, not by a rejection of social ties 'but by their more complex assimilation and incarnation'. Those who repudiate social life, he claims, do not achieve freedom, but rather float in a 'void of self-indulgent fantasy', or tend to make a cult of violence or brutality. There is a close association he argues between the atomic, detached individual and 'mechanical uniformity' (1944: 254).

Linked with this is a fifth characteristic of the mechanical *idolum* – its overemphasis on 'atomism', the 'analytic method of dismemberment and dissociation', as Mumford describes it. Mechanistic science thus has no conception of 'wholes' but only of a world of isolated phenomena (1944: 246).

Finally, Mumford continually stresses that the Baconian vision of the 'bounds of human empire' implied not only a faith in the powers of human technology, but also an ethic of the domination of nature – 'the conquest of the external world' (1944: 264).

Although the seventeenth century was undoubtedly one of the great 'epochs' of human thought, and mechanistic science had contributed importantly to human welfare, nevertheless Mumford maintained that the dreams and visionary thoughts of the mechanistic philosophers 'remained a dream no less than the old Christian dream of angels, sprites and demons' (1944: 259).

In his later study, *The Pentagon of Power*, Mumford reiterates in greater depth and more critical insight his harsh critique of mechanistic philosophy. He even speaks of the 'crimes' of the mechanistic philosophers, given their exclusive preoccupation with quantity, their bias against subjectivity and the radical dualism they espoused between the objective and subjective worlds of human experience. Given their metaphysical preoccupation with the physical world, interpreted as a machine, the mechanistic philosophers (Kepler, Galileo, Descartes, Bacon) tended to dismiss human history and human culture as 'subjective' and to completely ignore organic life and the human personality. In his discussion of Francis Bacon, Mumford emphasizes the degree to which in recent years science and technics have been increasingly conjoined, and utilized to enact Bacon's vision of extending humanity's 'empire' over nature by means

of technological control (1970: 106–110). Thus science and technology have increasingly become the ‘servants’ of governments and corporate organizations (1970: 123).

One further point is worth noting in conclusion: Mumford’s suggestion that almost all the utopian schemes have a tendency to be totalitarian, and thus emphasize uniformity, regularity, isolation and autarchy as well as stress a hostility towards the natural world (1970: 210).

6

The Insurgence of Romanticism and Utilitarian Philosophy

At the end of the eighteenth century, alongside utilitarianism and in reaction to mechanistic philosophy and industrial technology, there arose what has generally been described as the Romantic Movement. It was one of the forms of resistance to industrial capitalism, which included, of course, the so-called Luddites, intent on smashing the offending machinery. The conquest of Western civilization by the machine was not therefore, Mumford insists, accomplished without the ‘stubborn resistance’ of many individuals and movements (1934: 284). Primary among these was the Romantic Movement, and the key figure for Mumford was Jean-Jacques Rousseau.

Among eighteenth-century Enlightenment d’Holbach, Diderot, Hume and Voltaire, the essentially, according to Mumford, a rejection of negative values – ‘brutality, superstition, ignorance, misery’ (1944: 265). But the eighteenth century was not, Mumford insists, the ‘age of reason’, for this epithet really belongs to the preceding century, and in defining reason as the attempt to include all facts of experience into ‘a comprehensive and intelligible order’, Mumford argues that the mechanistic philosophers of the seventeenth century held reason (in this sense) in some contempt. In their emphasis on empirical knowledge, many Enlightenment philosophers were, in effect, antirationalists.

Emphasizing also the intellectual diversity and within Enlightenment thought (something lost on deep-seated conflicts

contemporary postmodernist scholars), Mumford notes that many of the best minds of the eighteenth century had ceased to look upon reason as an important influence in human affairs (1944: 267). Whereas the radical movements of the medieval period had sought a better future by restoring the past – a return to an earlier apostolic conception of Christianity – and mechanistic philosophers in general had repudiated history entirely, Enlightenment philosophers put their

faith in progress and claimed an 'exclusive patent on the future'. In philosophers, such as

idea of 'progress' meant doing so they underestimated the tenacity of tradition, and were overconfident in their capacity to transform social life, whether through science, commerce or education. In addition, they not only denied the past, but cut themselves off, Mumford maintains, from organic life (1944: 267).

The great advocate of the revolt against reason – at least in the form of instrumental reason – was Rousseau. Mumford describes him as the 'LaoTse' of his age. In Rousseau the revolt against mechanism, despotism, regimentation, exploitation, slavery and life-denying customs received its true embodiment. Thus Rousseau came to have a profound influence in both Europe and North America. In his attempt to live a more simple, integrated life closer to nature, this influence was 'entirely salutary', Mumford argues, a necessary response to the overemphasis on industrial technology and mechanism. But Mumford makes some important criticisms of Rousseau's fascination with the 'primitive' and his idealization of the 'Noble Savage'. The notion that humans in the 'state of nature' are solitary beings, and somehow outside history, Mumford suggests is quite mistaken, if not rather fanciful. Rousseau's idealization of the 'primitive' was not in any case based on extensive anthropological research; it was more a literary device, a means of critiquing the excesses of his own society, Western civilization. The theme of the 'natural life' that needs to be affirmed, cannot, Mumford argues, be divorced from the human need also for 'transcendence'. Civilization, like the original Promethean gift of fire, has therefore many positive aspects – a more complex division of labour, literacy, the universalism expressed by the axial religions (like Buddhism and Confucianism), new technics, the creation of city life. Tribal society, though it expressed many important values essential to human social life, Mumford tended to interpret as having a 'timeless quality', resistant to change, lacking spontaneity, its emphasis on cultural solidarity and ritual eliding any wider conception of humanity (1944: 275, 1957: 24; Howell and Willis 1989).

Recognizing the complexity and diversity of the Romantic Movement, Mumford discusses this reaction to industrialism in terms of four main forms.

The first was its 'cult of history' and its emphasis on the past, whether of the classical or medieval periods: this entailed a reaffirmation of folk traditions, which came to be particularly important in the nationalist movements of the

nineteenth century (1934: 288–290).

The second was the ‘cult of nature’ – the advocacy of a return to nature, which was particularly well expressed by Rousseau, as discussed above. The concept of ‘nature’ has many meanings, but the one particularly emphasized by the Romantic tradition was nature as ‘the sky and earth and all its inhabitants, untouched by the hand of man’. Nature was thus viewed as a pristine wilderness, and to live according to nature ‘was to accept the earth and its organic life’. Human existence thus had value through participation in this life (1944: 278). This prescription, given its time and place, was, Mumford argues, a ‘sane and liberating one’ (1944: 278). Romanticism, therefore, was not only a compensation for a society over-mechanized, it also completely reversed the mechanical worldview: ‘As opposed to the physical sciences, the romantic now associated nature with his own subjective states, while he associated the objective with people, conventions, society, manmade things’ (1944: 281). Thus the positive feeling towards nature had its downside; an exaggerated emphasis on the uniqueness of the individual and a rather negative attitude towards society.

Thirdly, although this emphasis on the uniqueness of the human personality was important, and the stress on sentiment and feeling fostered a new sense of intimacy and tender understanding between the sexes, it ultimately developed, Mumford argues, into the ‘cult of the ego’. This was particularly well expressed by the German idealist philosopher Johann Fichte, who gave the doctrine of the ego a peculiarly nationalistic reading. Thus, rather unfairly, Mumford links Rousseau, via Fichte, to the outpourings of Adolf Hitler (1944: 291).

Finally, as earlier noted, Romanticism was particularly associated with the ‘cult of the primitive’ – involving a complete repudiation of ‘mechanical civilization’ and a return to a tribal or subsistence economy. For Mumford, this was neither possible nor necessary, given his affirmation of many aspects of industrial and urban civilization. Yet although he is critical of the Romantic Movement as a viable alternative to industrial civilization, Mumford is nevertheless supportive of its attempt to restore the essential organic activities of human life to a central place in human affairs. As he writes:

In its animus, romanticism was right: for it represented those vital and historic and organic attributes that had been deliberately eliminated from the concepts of science and from the methods of the earlier technics, and it provided necessary

channels of compensation.

(1934: 286, for a useful study of the Romantic Movement see Berlin 1999). These positive elements in Romanticism needed to be incorporated into a new social synthesis – organic humanism.

Without repudiating either technology or urban life, many of the insights of the Romantic Movement – specifically a new sense of humanity's organic relationship with nature – were therefore incorporated into the perspectives of many nineteenth-century scholars. Among those specifically mentioned by Mumford were Goethe, Thoreau, Emerson, Whitman, Melville and Tolstoy (1944: 278).

By the end of the eighteenth century the ideological foundations of what Mumford refers to as the 'modern man' had been firmly established in Western culture. The ideology of modernity focused on one basic theme, namely, 'the conquest of nature and the liberation of mankind by mechanical invention' (1944: 301). It thus entailed a faith in machine technology, an ethic of domination over nature, and an emphasis on change, innovation and progress. In this faith, whatever was the newest and latest was the best and to be out of date was to be devoid of value (1944: 264). In its celebration of technology, its anti-naturalism and its repudiation of history, postmodernism seems in many ways to be the apotheosis of modernity.

In the nineteenth century the concept of 'utility' came into prominence, and a new 'utilitarian spirit', derived from mechanistic philosophy, became the dominant ideology. Utilitarian philosophy thus emerged alongside that of Romanticism. Indeed, Mumford suggests that the romantic and utilitarian represent constant features of human nature, and are often reflected in distinct personality types. He thus suggests that Shakespeare and Bacon are respectively the earliest visible prototypes of the romantic and utilitarian personalities (1944: 281).

Utilitarian philosophy capitalism and was consonant with its paleotechnic culture. Mumford came to describe the typical utilitarian personality as follows: 'He believed in science and inventions, in profit and power, in machinery and progress, in money and comfort, and he believed in spreading these ideals to other societies by means of free trade' (1934: 285).

Prometheus, who stole fire from the gods, became the new deity of the utilitarian ethos, and mechanism, absolutism and capitalism – all formulated according to Mumford by the fifteenth century – had by the nineteenth century reached a state of ‘complete incorporation and embodiment’. This was reflected in terms of the new environment – with its railroads, bridges, canals and factories – all expressions of humanity’s new powers (1944: 303).

Utilitarian philosophy, Mumford writes, sought to interpret every aspect of life in terms of utility or the practical: ‘hence truth, goodness and beauty were either badly warped or crassly neglected in the new environment of industrialism’.

This new ideology also expressed an atomistic conception of the human personality, and what was called ‘freedom’ was simply the freedom of laissez-faire, which clearly gave ideological support to industrial capitalism to escape the constraints and obligations of communal life, and to focus purely on the generation of profit (1944: 310).

By the middle of the nineteenth century it was clear that there had been what Mumford describes as a ‘miscarriage’ of industrial capitalism, reflected in widespread poverty, increasing social inequalities and the ‘evils’ of industrialism, especially evident in the environmental degradation earlier discussed. There thus arose several revolutionary utopias, expressing a socialist vision. Important among these utopian socialists, discussed by Mumford, were Charles Fourier, Robert Owen, Edward Bellamy and Henri Saint Simon.

Extremely critical of the modern utopian tradition, Mumford is especially critical of the ‘technological dream world’ of Edward Bellamy’s *Looking Backward* (1885). While not questioning Bellamy’s integrity or his motives, or even his conception of the ‘good life’, Mumford is nevertheless extremely critical of the socialists’ overemphasis on mechanical organization and this tendency to subordinate human needs and purposes to machinery and to the industrial system (1922: 165–169). Bellamy, Mumford writes, did not hesitate to accept military organization as the basic model of this ideal society, and he quotes from Bellamy’s book – a best-seller in its day – to illustrate the totalitarian nature of this utopia: ‘If a man refuses to accept the authority of the state and the inevitability of industrial service, he loses all his rights as a human being’. Small wonder that Mumford considered Bellamy’s *Looking Backward* as a blueprint for National capitalism in Russia (1970: 215–218).

Socialism in Germany and state It certainly confirms Mumford's suggestions that many utopias have a totalitarian ethos.

Utilitarian philosophy was particularly well-expressed by Francis Bacon and Jeremy Bentham, but Mumford is insistent that Karl Marx, though a radical anti-capitalist, was also essentially a philosopher of industrialism. Marx, along with his close associate Friedrich Engels, was also critical of the utopian socialists, aiming to promote a 'scientific socialism'. Yet Mumford contends that Marx was as much obsessed with utilitarian ideology as was Bellamy and Herbert Spencer, and conceives a better future only in terms of the 'widening triumphs of industrialism' (1944: 329).

Following Lenin, Mumford highlights the fact that Marx brought together three dominant streams of historical experience: the British tradition of empirical science; the French tradition of socialism and political revolution; and the German Hegelian tradition that emphasized the importance of social change (1944: 332). Acknowledging the positive aspects of Marxism – Marx's humane vision of a socialist society, his efforts to further the emancipation of the working classes and his important academic studies of the relationship between technology and production – Mumford is nevertheless extremely critical of two aspects of Marx's theory: his paradoxical but wholehearted embrace of industrial technology and the economic determinism inherent in his theory of historical materialism.

Marx, Mumford argues, certainly had a conception of the 'whole man' in his critique of industrial capitalism, and thus a vision of a humane system of production (1970: 405). But all too easily Marx and his followers accepted machine technology as an absolute, believing that 'the replacement of craftsmanship by automatism was an inescapable if not always a benign process' (1944: 336). There was thus an essential paradox in Marx's philosophy: it rested on the continued expansion of machine technology, thereby accepting all those processes which had, in fact, 'regimented and enslaved mankind' (1944: 337).

Ideas such as that humans are in constant interaction with the natural world, and that modes of production influence other aspects of human life, Mumford contends, are now integral parts of our general knowledge about the world. But in turning Hegel 'upside down' and rejecting this idealist philosophy, Marx, Mumford argues, tended to overemphasize the materialist aspects of human life.

Mumford is thus critical of Marx's economic determinism, suggesting that, 'To hold that man is completely conditioned by his agents of production is as false as to hold that he can completely escape their pervasive effects' (1944: 5). For production, creative work, is necessary to human well-being, and has primacy in humanity's 'self-maintaining' activities. It provides humanity with a 'living'; not, Mumford argues, for the purposes of simply enlarging our capacity to consume, but rather in liberating our capacities to create (1944: 5).

In his advocacy of economic determinism, where Marx went astray, Mumford holds, was to confuse 'basis' with 'cause', for although all human culture does have a material 'basis' there is rarely a direct link between economic relations and cultural forms. Equally, human material life also has an ideal basis (1944: 331). There has always been an extensive debate on whether or not Marx was an economic determinist – which Mumford stridently maintained – or whether he, in fact, viewed the relationship between the economic base and the political and ideological superstructures as one of 'reciprocal action', and thus acknowledged (like Mumford) a multiplicity of factors in the understanding of social life (for useful studies on this issue see Callinicos 1982: 142–167; Rigby 1987).

Although Mumford felt that Marxism had been important in promoting a more holistic philosophy, his overall assessment of Marx's political philosophy was essentially negative. Marxism lacked an organic perspective; it subordinated human values to a narrow utilitarian scheme; it failed to acknowledge that many changes were non-dialectical; and it tended to view the processes of history as functioning independently of human agency. As Mumford put it, Marxism 'buries the person in society'. Mumford therefore felt that there was an inherent link between Marx and the totalitarian politics of the Soviet Union under Stalin (1951: 225).

For all his critiques of utopian thought, Marx was essentially a prophetic thinker – a 'futurist utopian' – and given his rather aggressive and domineering personality, it was inevitable, Mumford argues, that his politics – like that of his followers (Lenin, Trotsky, Stalin) – were invariably of an authoritarian cast. Ignoring Kropotkin's emphasis on co-operation and mutual aid, Marxists have thus come to advocate a form of authoritarian or state socialism. Indeed Mumford suggests that the authoritarian aspects of Bolshevism was a direct bequest of Marx, and that the one-party state was the almost inevitable fruit of Marx's personality and politics. Real life, even under capitalism, is far better, Mumford concludes, than utopia (1944: 338– 360).

In fact, following Geddes, Mumford always made a distinction between ‘utopia’, which is generally divorced from the realities of human life, a ‘no place’, and ‘eutopia’ – the ‘good place’. For like Aristotle, Mumford was always engaged in exploring the conditions necessary for the ‘good life’. He was thus concerned with a ‘utopia of reconstruction’, involving the transformation of socioeconomic life, as well as going beyond the current ‘mechanical idolum’ (1922: 22).

Along with his advocacy of regionalism and decentralized communitarian politics, Mumford was therefore also an advocate of ‘critical utopianism’ – though preferring utopias of ‘reconstruction’ rather than those of ‘escape’ – whether into the ‘past’ (primitivism) or into some future technological utopia. He thought Buckminster Fuller’s characterization of a space capsule as the ideal environment for humans as quite absurd and life-denying. As Mumford affirmed, ‘life is better (and invariably more interesting) than utopia’ (1976: 353; Segal 1990: 101–104).

Besides utilitarianism, two other cultural movements emerged during the late nineteenth century, and both were, in a sense, protests against the antivital rationalism of the ‘new world’ *idolum* – mechanistic philosophy. These were the theory of organic evolution, associated with Charles Darwin, and the cult of nationalism.

Western Europeans had long expressed an aggressive attitude towards nature as well as towards tribal peoples, but from the end of the eighteenth century a growing and deepening interest was expressed in the origins of life, and in natural history. Scholars such as Buffon, Lamarck, Cuvier and Goethe sought to explore the variety of living organisms that inhabited the earth, and with which human life was closely intertwined, as well as to speculate on their development and transformation. Studies in geology and palaeontology greatly extended and revolutionized the European perspective on time, and as Mumford writes, organic evolution became one of the most important cultural themes during the nineteenth century.

Although Hegel is often credited for his evolutionary views, given his emphasis on dialectics and change, in fact, Mumford rightly affirms that Hegel was not an evolutionary thinker, for the world of nature for Hegel only exhibited self-repeating cycles. The German philosopher was essentially a historic pantheist; in contrast to evolutionary thinkers like Lamarck and Darwin, for whom nature expressed novelty, development, freedom and purposive adaptation. Thus the

natural world is characterized by stability and dynamic equilibrium as well as by growth, development and transformation, which for Hegel was characteristic only of spirit (*geist*).

The recognition of organic life – Naturalism – was an important corrective to the shallow rationalism of the mechanistic philosophers, and thus Mumford acknowledged that a critique of mechanistic philosophy began in the nineteenth century. But as with Marx, Mumford's discussion of Darwin's evolutionary biology is essentially ambivalent and critical. On the one hand he pays tribute to Darwin as a great naturalist, who offered sympathetic insights into the nature and development of organic life, and who laid the foundations for both animal psychology and the science of ecology (1944: 347). Yet in fully embracing Thomas Malthus' theory of the population with its emphasis on competition and the struggle for existence, and on the 'survival of the fittest' (which was Spencer's phrase), Darwin's theory tended to justify contemporary capitalism. As Mumford expressed it, Darwin's theory of natural selection 'sanctified the brutality of industrialism and gave a fresh impulse to the imperialism that succeeded it' (1944: 349). Like many present-day scholars Mumford makes a distinction between Darwin the naturalist and ecological thinker, with the emphasis on symbiosis and mutual aid (later advocated by Kropotkin) and Darwin the 'neo-Malthusian' with the emphasis placed on competition and the struggle for existence. This later perspective was transformed by the Social Darwinists into a political dogma (1944: 350).

In *The Pentagon of Power* Mumford was later to make a distinction between Darwin and Darwinism, the latter doctrine putting an emphasis on the struggle for existence and on natural selection – what is nowadays described as 'ultra-Darwinism'. What was important about Darwin as a naturalist, Mumford argues, was that he established, long before environmental philosophers, deep ecologists, eco-feminists and Fritjof Capra (1982), a 'new vision of life', a 'post-mechanistic world picture'. This entailed an ecological interpretation of life, and constituted what Mumford describes as an 'organic world picture' or an ecological worldview (1970: 386–388).

Mumford embraced this new philosophy and his organicism acknowledged, like Kropotkin's evolutionary holism, both aspects of nature, mutual aid and competition, dynamic equilibrium and change, survival and selffulfilment (Morris 2004: 123–127; on contemporary debates see Rose and Rose 2000).

Nationalism, too, which began as an expression of the Romantic Movement, and which initially placed an important emphasis on the organic, eventually developed into an almost religious dogma, emphasizing social exclusion. Repudiating the cosmopolitan humanism of the Enlightenment, embracing utilitarianism and the ethic of domination, nationalism eventually took a pathological form – what Mumford describes as the ideology of barbarism: fascism. He thus offers a strident critique of Oswald Spengler's *The Decline of the West* (1928), describing the book as an 'invocation to barbarism' (1944: 372).

It is of interest that Mumford, somewhat unfairly, came to interpret his contemporary, the pragmatist philosopher John Dewey, as a defender of utilitarianism. Mumford took exception to Dewey's rather wooden writing style, which he suggests is as 'depressing as a subway ride' (1926: 131); his 'instrumentalist' occupation with thought led to a serious neglect of the arts, morality and human values. Mumford therefore accused Dewey of having 'acquiesced' to industrial capitalism and its machine technology.

There are, Mumford suggests, two kinds of liberalism: 'ideal liberalism', derived from the Judaeo-Christian and Western humanist traditions, with its core values of freedom, democracy, objective reason and racial tolerance; and 'pragmatic liberalism', with which he clearly identified Dewey. This second form of liberalism, while accepting many of the humanist ideas, puts a naïve faith in technological progress, and virtually 'worships' the machine; expresses an 'adolescent pride' in the scientific conquest of nature; continually affirms that humans should think without emotion or feeling; and, finally, tends to downplay many aspects of the human personality – poetry, handicraft, arts, music and contemplation (1940: 62–91; Miller 1989: 395–397). Pragmatic liberalism, given its positivistic credo and its enchantment with industrial technology, Mumford felt was a 'betrayal' of true liberalism. perspective

the natural on knowledge, sciences and and Dewey's general pretechnology, which Mumford Although Dewey and Mumford had earlier associated together on the

radical literary journal *The Dial*, and Mumford often wrote warmly of Dewey's intellectual achievements, there seems to have been some animosity between the two scholars – both important public intellectuals. But as Robert Westbrook (1990) has shown, Mumford and Dewey were in fact 'kindred spirits' who shared many ideals and social perspectives, and most of Mumford's criticisms of

Dewey were somewhat misplaced and unfair to the pragmatist. Dewey, Westbrook argues, was neither a progressive technocrat nor a utilitarian. Where they differed was that Mumford, unlike Dewey – whom Westbrook describes as an ‘American guild socialist’ (1990: 313) – was more of a communitarian socialist, and was critical of the concentrated powers of the nation state. Mumford thus always steered clear of political parties and statist politics.

Mumford's Organic Philosophy

In the famous painting in the Vatican by Raphael, known as *The School of Athens*, the figure of Plato is depicted as pointing to the heavens while Aristotle points downwards to the earth (Lewis 1962: 50). In an important sense Mumford attempted to combine Plato's rationalism with Aristotle's empirical naturalism. In the opening chapters of *The Story of Utopias*, his first published work, Mumford thus writes: 'Man walks with his feet on the ground and his head in the air; and the history of what has happened on earth . . . is only one-half of the story of mankind' (1922: 12).

Always engaged with the writings of Plato and Aristotle, Mumford thus emphasizes that all humans lead a 'twofold life', and in a sense live in 'two worlds' – an actual world and the life of the mind; and though the former has ontological priority, human consciousness and culture are intrinsic to human experience. We thus live, he suggests, in a real, material 'outer world' as well as in a subjective 'inner world' – the world of ideas or *idolum*. This is a general term that Mumford often employs to cover the 'symbolic milieu', composed of images, signs, sounds, words and objects that have symbolic value. These constitute what other scholars describe as worldviews, ideologies, or cultural schemes, for it is by means of such patterned symbols, Mumford writes, that humans construct a coherent world out of their sense impressions and individual experiences (1944: 8). He thus suggests that humans are in a sense unique; the only creatures who live 'a twofold life, partly in the external world, partly in the symbolic world he has built up *within* it' (1951: 48). Even so, there is much evidence to suggest that 'culture' is not unique to humans, and that the human capacity for symbolic thought is a matter of degree rather than an absolute distinction, as Mumford himself acknowledged (1957: 12; Eckersley 1992: 50; Milton 1996: 64).

Long before trendy anthropologists, Mumford recognized that human life is a 'hybrid', intrinsically both natural and cultural, both personal and social. But unlike some contemporary postmodernists, enwrapped in a rather sterile subjective idealism, Mumford never questioned the reality of the material world:

For good or ill, you must breathe air, eat food, drink water; and the penalties for refusing to meet these conditions are inexorable. Only a lunatic would refuse to recognize this physical environment: it is the substratum of our daily lives.

(1922: 14)

Emphasizing also the reality of the ‘world of ideas’, for cultural beliefs have an important influence on human action, Mumford suggests that only the Hindu mystic (or postmodernist) or the American businessman (or positivist) would deny the reality of both worlds – respectively, the material (events) and the ideological (signs).

It has to be acknowledged then, like Marx and Durkheim before him (and along with many other scholars) that Mumford advocated a form of ‘emergent materialism’ (Bunge 2001: 76), repudiating both idealism and reductive materialism. Idealists tend to despise the mundane world and treat ideas as disembodied or even as the only reality – whereas ideas become formative only when rooted in social life – while materialists tend to despise ideas, or treat them as epiphenomenal (Mumford 1944: 77). But the great task of human life, Mumford contends, is to remain fully alive on both ‘the plane of organic existence and on the plane of symbolic participation’ (1944: 147).

The notion that Mumford’s ‘visionary organicism’ implies an ‘idealist epistemology’ seems to me quite mistaken (cf. Marx 1990: 178), without one defines as idealist any scholar who emphasizes the importance of ‘ideas’ in human life. By this criterion Karl Marx was an idealist.

Following his mentor Geddes, and the process philosopher Alfred North Whitehead, Mumford described his own philosophic outlook as being ‘organic’. For unlike many sociologists and cultural anthropologists Mumford never lost sight of the fact that humans are organic beings: without water humans can survive for barely three days, and without air for hardly more than three minutes. But there is more to human life, Mumford insists, than mere survival. All organisms follow a certain ‘life plan’ peculiar to their species, and their life history proceeds in a directed, orderly fashion, partly determined by their own nature. Among the essential attributes of the higher organisms is thus the maintenance of an underlying identity through all the processes of change – what contemporary biologists and neuroscientists describe as ‘autopoiesis’ – the self-making of the living organism (cf. Capra 1996: 97). Continuity and emergence

are both intrinsic to organic life, and organic experience is therefore both cumulative and anticipatory. Even at the lowest level, with regard to bacteria, life, Mumford argues, is a 'selective process' – a process of choosing, restraining, promoting. The life-maintaining functions therefore tend towards autonomy and self-direction (1951: 31).

There is often an essential dialectic to life, a tendency towards stability, inertia and the maintenance of a 'dynamic equilibrium', and a tendency to 'seize more energy than is needed for survival'. Following Geddes, Mumford holds that there is a certain 'insurgent' quality about life, human life especially. Humans are therefore not simply adaptive beings, continually adjusting themselves to an external environment, as Herbert Spencer had implied; rather they exert themselves as cognitive agents beyond what is necessary for mere survival. As Mumford writes: 'Instead of taking life as it comes and quietly adapting himself to external conditions, man is constantly evaluating, discriminating, choosing, reforming and transforming at every moment of his existence: and this has been true throughout his history' (1951: 122).

In a rather superficial critique of radical ecology, Josef Keulartz suggests that holistic philosophers and radical environmentalists like Mumford, in challenging anthropocentrism and the 'accursed' dominance of humans over nature, demand instead the 'submission' of humans to nature. He also implies, quite misleadingly, that communitarian politics and holism entail the 'submission of the individual to the greater whole' (i.e. the community) (1998: 13). This is a wilful misrepresentation of both Mumford's holistic philosophy and his communitarian politics. Making a banal affirmation that there is a direct link between metaphysics and politics, Keulartz declares that Mumford (along with other radical ecologists), to the extent that they advocate a holistic perspective, are supportive of 'totalitarian politics'. Besides misrepresenting both Mumford's organic philosophy and his politics, and indicating a woeful ignorance of anarchism, Keulartz's analysis is superficial and misguided, and reflects the poverty of the kind of Habermasian neo-Kantian philosophy that Keulartz supports as 'post-naturalism'. The autonomy and free development of the human personality was paramount for Mumford, as it was for Kropotkin, something quite lost on Keulartz (see Morris 2004: 181–183).

Besides describing life as purposive and directional in tendency, Mumford also highlights, following Kropotkin, the vital role that mutual aid, reciprocity and symbiosis play in organic life. This is expressed most simply in 'food chains'

that link diverse forms of life. Mumford thus sums up his thoughts on the organic basis of human life as follows: 'Balance: autonomy: symbiosis: directional development – these are the fundamental concepts we extract from a study of living organisms at a pre-human level and apply further toward the understanding of man's life and destiny in society' (1951: 31–32).

The Inclusion of Autonomy

Although Mumford was concerned to stress the organic aspects of human life and what man shared with other animal species – such as sociability, cognitive agency and practical intelligence – he also affirmed those capacities that he considered to be unique to human life. Scholars of human evolution have, of course, long recognized the crucial importance of the Promethean theft of fire and the capacity of humans to use tools – although it is now evident that many animals and birds also make use of tools. But Mumford also emphasizes humanity's extraordinary retentive memory and its propensity for play and imitation; the human capacity for dreaming and the constructive employment of the imagination; the rich emotional life that humans seem to exhibit; and finally, the sense of awe, wonder and mystery that humans express towards the forces of nature and the cosmos generally. Again, Mumford recognized that such feelings, in relation to animal life, may only be a matter of degree; nevertheless he stressed that their development among humans is in a sense unique. Although there may be no radical dichotomy between humans and other forms of animal life, Mumford continually affirms the importance of what he describes as the 'veritable humanness' of *Homo sapiens* (1957: 12–14). The suggestion that an emphasis on human 'uniqueness' – aren't all organic forms unique? – necessarily entails humanity's *right* to subdue and dominate other animals is, of course, quite misleading (cf. Peterson 2001: 29).

Memories, the disposition of make-believe, the mimetic impulse, all are crucial, Mumford felt, to the emergence of *human* life, and all contribute to the development of language and what Mumford viewed as central to the human species, namely the capacity for culture, or what he describes as 'second nature' (1957: 11). The human species, he notes, is an 'unfinished animal'; for unlike other organisms the final stage of human history is not determined solely by a biological past.

Human society, unlike those of animals, is, Mumford writes, 'an agency of self-consciousness and self-exploration and self-revelation. Man does not merely

exist as an organic product: he makes something of himself and the making of man is the meaning of history' (1951: 37). As an extra-biological mode of inheritance, human culture or social heritage, is humanity's mode of being in the world, and their principal means of transforming the natural world. Like Levi-Strauss in a later generation, Mumford emphasizes that human beings are not primarily 'tool-makers'; it is rather through dreaming and language and the use of symbols that humans are best defined. Implying a sense of 'detachment' from the organic, the human species became essentially human, Mumford holds, by creating a 'new world', the domain of the 'superorganic' (Kroeber) – a meaningful world of symbolic and cultural forms. Language and culture are thus the most essential indicators to what is 'truly human' (1951: 40).

Yet language, Mumford insists, not only has instrumental value as a way of understanding and utilizing the material world – something he felt Henri Bergson had overemphasized – it also has a more formative impact, enabling humans to express their feelings, their sympathies, their insights, and thus in turn enabling human fellowship and social co-operation to flourish. Language was the outcome, Mumford writes, of the human need to 'affirm solidarity', and it was mainly through language that humans created a 'second world'. This symbolic world is far more basic, Mumford felt, than any other kind of tool or machine.

Like Benjamin Whorf and other cultural anthropologists, Mumford tends to equate culture and language, although it is now recognized that linguistic phenomena are only a *part* of culture, most of which is non-linguistic (Bloch 1998: 14). But contrary to the deconstructionist emphasis on the instability of meaning (Derrida), Mumford writes: 'If meaning changed as quickly as events, no event would have meaning' (1951: 44). In emphasizing the importance of language and symbolic thought and the subjective aspects of human experience, Mumford's organic philosophy contrasts markedly with both existentialism and behaviourism, philosophies that were very much in vogue when Mumford was writing. What the existentialist, in angst and despair, finds lacking in the world, namely meaning, Mumford suggests, is 'merely what is lacking in his philosophy' – a social perspective (1951: 53). The wholesale rejection of the psychological and subjective aspects of human life, by behaviourists such as John B. Watson and B.F. Skinner, Mumford finds equally untenable.

Given the crucial importance of human sociality and symbolic thought, Mumford follows the cultural anthropologists in suggesting that our perceptions

of the world are always socially mediated – or as Ruth Benedict graphically expressed it, no person looks at the world ‘with pristine eyes’ – for it is always edited by a definite set of customs and institutions and ways of thinking (1934: 2). Mumford reiterates this perspective:

Each of us sees the world through a screen: the screen of his physical constitution and his temperament, his vocation and various social roles, his family relations and his other group affiliations, his personal philosophy and the total body of his culture.

(1951: 23) These factors, particularly sociocultural factors, influence or ‘edit’ the way humans perceive the world, but they do not determine it, and Mumford writes that all these ‘screens’ are themselves the result of ‘ceaseless interactions’ between the organism and its environment. Yet he suggests that what we know about the natural world largely comes to us by interpretation rather than by direct experience; what we know about the world is essentially a byproduct of human culture, as revealed in history. Our conceptions of the natural world have therefore varied throughout history and ‘our present views of the universe are no more ultimate than the cave man’s. On every page of Nature’s opened book, man scrawls in the margin his own autobiography’ (1951: 26).

What then is basic to human life are the highly complex structures of meanings and values that are produced and transmitted in history, and the key concepts of Mumford’s synthetic or organic philosophy are, he writes, continuity, emergence and creativity (1951: 25).

The organic perspective that Mumford embraced is not, it must be noted, a form of cultural idealism; for he not only emphasized the natural constraints on human life but also the important role of the human personality. He was particularly struck by the suggestions of the physicist James Clerk Maxwell that singular events are important creative factors in the understanding of the physical world; by the same token Mumford felt that the human personality was an important factor in the understanding of social life, especially social change. He described the tendency of scientific positivism to ignore the human person; although he was equally critical of the ‘cult of the personality’ that surrounded political dictators like Hitler and Stalin. Many scholars, he notes, tended to treat personality factors as somehow ‘unreal’ or ‘spookish’ – though Mumford of course was writing in the heyday of behaviourist psychology and the philosophy of logical positivism, both of which expressed a ‘bias against the personal’

(1951: 108–109). In contrast Mumford emphasizes the primacy of the human personality, noting that it is through the experiences of the human personality that the subjective and objective, the inner and outer aspects of human life are united (1951: 229).

Even though Mumford was an advocate of holism, he was nevertheless reluctant to reduce life to a 'system'. This he defines as the reduction of life to a 'single' intellectually consistent pattern or concept, thereby neglecting the many other factors that belong to life, human life especially, by virtue of its varied organic needs and its complex, ever developing purposes. Only a synthetic or 'total view', he felt, was adequate: 'Life cannot be reduced to a system . . . no organism, no society, no personality, can be reduced to a system or be effectively governed by a system' (1951: 179). Embracing a dialectical approach Mumford also repudiates, like Engels, the fallacy of either/or thinking. All the many philosophical systems – idealism, materialism, humanism, personalism, existentialism, as well as Marxism and Emersonian individualism, though each has intrinsic merit, were nonetheless limited; only a synthetic approach, Mumford argues, can embrace the contradictions and the complexity of organic life.

For example, Mumford suggests that those such as Engels and Dewey who see reality only in terms of flux and change and dismiss the fixed and the static as 'otiose', and the Greek and the Hindu philosophers (Plato, Sankara) who, in contrast, regard time and flux as 'unreal' or 'illusory', and only the unchanging as the true reality, are being misleading, presenting as they do one-sided interpretations. For both stasis and flux are dimensions of reality, and a 'philosophy of the whole' will recognize both in an 'open synthesis'. As Mumford writes:

All life rests essentially on the reconciliation of two opposite states, stability and change, security and adventure, necessity and freedom; for without regularity and continuity there would not be enough constancy in any process to enable one to recognize change itself, still less to identify it as good or bad, as life-promoting or life-destroying.

(1951: 181)

On this issue both Engels and Dewey would no doubt have agreed with Mumford, for Mumford seriously misjudges Engels' dialectics and Dewey's

empirical naturalism (Dewey 1929: 46–51; Engels 1940). Given his ecological approach Mumford puts an emphasis on the need for an ‘organic’ or ‘dynamic balance’ and affirms that all organisms are ‘open systems’ constantly interacting with the surrounding environment in terms of energy. For Mumford the notion of ‘balance’ relates to the organism as well as to the human personality – which he views as an ‘emergent’ from society. Critical of the notion of the ‘isolated’ individual, particularly of the ‘economic man’ of the nineteenth century, Mumford continually affirms that though the human personality is an ‘emergent’ from social life, the relationship between the person and the community is always a dialectical one – ‘interdependent and interacting’ (1951: 201).

But Mumford always affirms the autonomy of the human person, for as the human species is an emergent from the animal world, so the person is an emergent from society:

The function of personality both includes the facts of community and transcends them. While the person is dependent upon the community, in the same fashion that the organism itself is dependent upon the material it absorbs from Nature, one cannot fully describe the person merely in terms of its social relationships.

(1944: 61)

Following the intellectual path, he admits, of a diverse array of scholars – Marx, Spencer, Kropotkin, Geddes, Nietzsche, William Morris, Ruskin and Walt Whitman – Mumford posits as a cultural ideal the notion of the ‘balanced personality’. He discusses at some length the historical emergence of the concept of a common ‘humanity’, as a universal category, which was particularly well expressed by Stoic philosophy, by various religious traditions, as well as by what he describes as the ‘generous cosmopolitan humanism of the eighteenth century’ (1951: 21).

Mumford also discusses the many theories of ‘personality types’, advanced by various scholars around the middle of the twentieth century (e.g. Sheldon 1942; Morris 1948) and concludes by stressing the need to bring together all these various ‘types’ which all belong to human life in its full development. In fact, they simply represent aspects of the human personality. They include such aspects or types as the *Promethean*, with its emphasis on struggle, domination and action (Mumford sees Marxism as exemplifying this type); the *Dionysian*, with its emphasis on desire, lifeaffirmation and animal vitality; and the *Buddhist*

type, representing withdrawal and detachment from social life combined with an emphasis on aesthetic or spiritual contemplation. Mumford suggests that Western culture had placed far too much emphasis on the Promethean way of life, in its worship of its own 'Holy Trinity' – mechanism, money and militarism – and that there is therefore a need to develop a more balanced personality, as well as a universal culture (1951: 201–203).

What then is needed is an organic philosophy that expresses and advances three basic characteristics: 'wholeness and autonomy and universality' (1951: 205). All three elements, of course, run completely counter to contemporary postmodernism, which, as one writer has expressed it, tends to employ radical rhetoric as a cover for rather reactionary ideological clichés (Kohan 2005: 144).

Evolutionary Holism

Following the metaphysics of such biologically-inspired scholars as Peter Kropotkin, Patrick Geddes, Henri Bergson, C. Lloyd Morgan and Alfred North Whitehead – one of evolutionary holism – Mumford stresses the importance of such concepts as emergents, organisms and wholes. Not only organisms in relation societies are seen by 'wholes'. With such wholes the co-operative factor and the need for balance are held by Mumford to be important, though he never denies the equal importance of conflict and competition, and is critical of the analogy, expressed by Spencer and structural-functionalists, between societies and organisms ([1938] 1970: 302–303).

Mumford expressed well his own holistic philosophy of life when he wrote in his autobiography 'the fusion of the emotional and the intellectual, the equal awareness of the past and the future as essential components of the present they are both continually shaping and remoulding – the unwillingness to put any part of life in a separate compartment detached from the whole' (1982: 117). It was natural, given Mumford's stress on organic life, that he should suggest the need to incorporate into synthetic philosophy the doctrine of 'final causes', for teleology permeates the biological realm. As he put it: 'All life is purposive and goal-seeking; and human life consciously participates in a more universal purpose and seeks goals that lie beyond the mere survival . . . of the species' (1951: 137). This implies that the present may be as much determined by the future – through plans, purposes, aspirations, hopes, designs – as by the past, for causal mechanisms operate in organisms precisely by being attached, Mumford argues, to specific goals or aims. The emphasis on teleology, however, by no

means denies the existence of causes and events, in the material world, it simply makes them more significant (1951: 132).

Never belonging to any organized religion, Mumford did not believe in God as some actual spirit or being, and he was extremely hostile to Arnold Toynbee's suggestion that a rebirth of Christianity was the means of overcoming the 'miscarriages' of Western civilization (1951: 113; Miller 1989: 561). But in many ways Mumford, like Whitehead and Erich Fromm, was a deeply religious thinker, and never in any sense 'anti-religion'. Religion, he felt, was concerned with an 'impenetrable substratum of reality' and implied a cosmic perspective that was reflected in such concepts as 'infinity' and 'eternity'. It was invoked by a sense of the ultimate wonder and mystery of all existence that was intrinsic to the human personality – an intuition that was expressed by natural mystics like Richard Jefferies (1883) as well as by philosophers like John Dewey (1934) with his concept of 'natural piety'.

Thus Mumford writes: 'This sense of the divine is an historic fact of man's nature; no theory that ignores it or explains it away can do justice to all to their environment Mumford as forming but also personalities and

interrelated and definable the dimensions of human existence' (1951: 69). Only too aware that religion had been utilized throughout history to buttress the position and privileges of the ruling classes, and that many religions were in fact life-denying, Mumford nevertheless emphasizes the more positive aspects of religion. As a cosmic perspective, going beyond the here and now, religion provides, he argues, purpose and meaning to human life, and gives humans a sense of permanence and rationality in a world of flux, accidents, sufferings and 'seemingly demonic caprice' (1951: 86). Like the Buddha, Mumford affirms that human life is essentially transient: 'Nothing that man does endures; none of the values man seeks, none of the purposes he fulfils, none of the knowledge he acquires, is altogether imperishable: the very nature of life itself is to be precarious, insecure, frail, vulnerable, evanescent' (1951: 66). There is, he suggests, again like the Buddha, no creator God establishing some ordained order, neither is the universe simply an 'aimless accretion of accidents' – which Mumford felt was the claim of many scientific materialists. For Mumford clearly felt that there was some hidden purpose in nature, and like Aristotle he suggests that God is not at the beginning but at the end of creation; a symbol of a 'new emergent' directed towards the greater fulfilment of life: 'an impulse towards perfection'. Divinity thus becomes manifested in the 'best representatives of the

human species' (1951: 72–75). Mumford even suggests that the role played by humans as interpreters, in giving meaning to the cosmos, is the 'apex of natural existence' (1951: 56). Thus for Mumford the human species not only exhibits continuity with the material world, but also embodies 'the creative forces of the universe' (1951: 66). Like Whitehead, Mumford seemed unable to dispense with the concept of God, and this sits uneasily with his organic humanism.

A recurrent leitmotif in Mumford's writings is the distinction he continually makes between 'mechanism' and 'organism'. This contrast can be schematically expressed:

Mechanism

machine
inanimate
uniformity
atomism
regimentation cause
statis
tool-making

Organism

organism
animate
unity
holism
agency
purpose
growth or development symbol-making

The contrast, and sometimes conflict between these two perspectives is the chief 'ordering principle', as Leo Marx suggests, in almost all of Mumford's writings – whether historical, sociological, critical or polemical (1990: 172). Yet it is important to recognize that for Mumford mechanism and organism do not constitute a radical dichotomy. He was not therefore opposed to 'mechanism', or to technological knowledge or machine technology, nor was he anti-science or anti-city, still less was he opposed to the many developments and benefits of urban civilization. What he sought to challenge was the overemphasis on 'mechanism' and the Promethean ethic of machine technology, and therefore the need to subordinate these to a wider organic vision, one more attuned to the sustaining of organic life and the development of the human personality.

In assessing Mumford's standing as a pioneer sociologist, Eugene Rochberg-Halton (1990) emphasizes that Mumford's basic ideas were deeply rooted in the organic conception of social life that was central to many philosophers writing around the turn of the twentieth century. Scholars as diverse as Herbert Spencer, Friedrich Nietzsche, Wilhelm Dilthey, William James, Henri Bergson, Patrick Geddes, C. Lloyd Morgan and John Dewey all put a fundamental emphasis on the concept of 'life'. Mumford was clearly in this tradition: an organic or 'life philosopher' who advocated a bio-semiotic social theory.

The reason that Mumford has not been recognized as an important sociologist in his own right, and one of the 'most original voices of the twentieth century' is not only because he wrote in a popular style, but also the fact that contemporary social theory has become intensely anti-naturalist. Contemporary scholarship – whether we consider structuralism, poststructuralism, textualism or the 'communicative rationalism' of the followers of Habermas (like Keulartz) – tends to have, writes Rochberg-Halton, rather 'ethereal conceptions of human conduct and meaning' (1990: 145). A fetish has been made of the language and meaning, with a complete loss of interest in the concept of life, and both social life and the body have been 'etherealized' in the process. In the writings, for example, of Claude Levi-Strauss, Jacques Derrida, Paul Ricoeur, Jürgen Habermas and Niklas Luhmann, 'living humans' have been completely effaced, and little scope is given in their theorizing to the perceptive, emotional and imaginative aspects of the human personality. Anyone expressing an interest in the concept of life is likely to be dismissed as a 'reductionist socio-biologist', so fervently antinaturalist has contemporary social theory become.

While Mumford wrote of the 'post-historic man' who is completely detached from organic life and human purposes, given the current 'worship' of machine technology, so contemporary social theorists, Rochberg-Halton claims, have posited the 'post-biological man', equally divorced from organic life and nature. Small wonder that Rochberg-Halton describes postmodernism as an 'extreme form of self-alienation' (1990: 144–147).

What is important about Mumford's organic approach to social life is that he attempts to steer a path between the Charybdis of 'post-historicism' and postmodernism with their inherent anti-naturalism, sociobiology and evolutionary psychology with their reductive materialism. Like Kropotkin, Mumford therefore embraced a form of ethical naturalism, noting that he left the Church to embrace Spinoza (1976: 315), and thus denied the split between facts

and values, as trumpeted by the positivists and neo-Kantians like Keulartz. Rejecting the notion that values are purely subjective and relative, Mumford nevertheless emphasizes that values (aesthetic and moral) are rooted in organic life and the social milieu, and ‘objectively tempered through experience’. Mumford also repudiates the objective, ‘value free’ detached stance of many positivist sociologists. For him, this was an abdication of the political and moral responsibility of the scholar (Rochberg-Halton 1990: 137).

But though an advocate of ethical naturalism this did not imply a simpleminded attempt to rush from facts to values, as Keulartz (1998) misleadingly interprets Mumford and other radical ecologists. For like Kropotkin, Mumford recognized that the link between factual knowledge (ecology) and human values (morality, politics) is always socially mediated (see my defence of Kropotkin’s ethical naturalism in Morris 2004: 166–170). Ethical naturalism, of course, has been advocated by an illustrious line of scholars – Aristotle, Epicurus, Spinoza, Adam Smith, Proudhon, Darwin, Erich Fromm, as well as by Mumford.

Like many of his contemporaries Mumford often writes about the ‘balance of nature’ and the dynamic (not static) ‘equilibrium’ of organisms within an ecosystem. Recent ecological research has tended to follow the pioneer ecologist Charles Elton (1930) and to emphasize that the ‘balance’ of nature is something of a myth, and has never in fact existed, and that the natural world exhibits only ‘discordant harmonies’. As one environmentalist put it, ‘Ecosystems are ever-changing, dissolving, transforming, recombining in a kaleidoscope of new forms’ (Budiansky 1995: 98). A growing critique has also been made of the idea that nature is ‘pristine’, or a ‘wilderness’, for the evidence suggests that humans have been transforming the natural landscape since time immemorial, or at least since antiquity.

Mumford would no doubt have been sympathetic to what has been discussed as the new ‘ecology of chaos’, even given its one-sided emphasis and the Scylla of

tendency towards on change and disruption, for Mumford always stressed the dialectical or bipolar quality of human life and ecosystems. Thus besides emphasizing cooperation, symbiosis and mutual aid, Mumford also stressed the inherent significance of individuation, autonomy, struggle and conflict, as well as the radical importance of singular events in nature. That humans were an intrinsic part of the landscape Mumford always took for granted, though stressing the need to set aside areas of land as natural sanctuaries.

But the new ecology of ‘chaos’ has not been without its critics, for in stressing that nature is fundamentally erratic, discontinuous and unpredictable, it has been viewed as giving licence to the technocrats and to the adherents of free market capitalism to continue to exploit and plunder the natural world (on these issues see Botkin 1990; Worster 1993: 156–170).

In *The Pentagon of Power* Mumford gives a short description of the ‘organic world picture’, the ecological worldview that he saw as emerging at the end of the nineteenth century. What was crucial to this new philosophy was that it offered a completely new perspective on time, and suggested the fundamental importance of historical understanding. Expressing nothing but disdain for ‘progressive’ and ‘avant-garde’ theorists who wish to destroy the ‘past’, Mumford emphasizes that the past, rather than being irrelevant to life and understanding, remains vividly present in the individual memory, in our genetic inheritance, and even in the structure of the whole organism:

The conception of time as the flux of organic continuity, experienced as duration, as memory, as recorded history, as potentiality and prospective achievements, stands in frontal opposition to the mechanical notion of time simply as a function of the motion of bodies in space.

(1970: 391)

And he concludes the section with the thought: ‘All thinking worthy of the name now must be ecological’ (1970: 393).

As, like Erich Fromm, Mumford is something of an Old Testament prophet, his writings often express a rather disconcerting preaching tone. This is particularly the case with the final volume of *The Renewal of Life* series, *The Conduct of Life*. Compared with his earlier works, the book was indifferently reviewed, and though it contains a rich elaboration of the main themes expressed in *The Condition of Man* it is, as this biographer suggests, ‘almost solemnly moralistic’. Mumford’s friend, the psychologist Henry Murray, even suggested that *The Conduct of Life* had an ‘autocratic tone’, as Mumford’s moral passion rather over-reached itself (Miller 1989: 449–450). But despite its underlying tone, the book contains an admirable account of Mumford’s organic philosophy (reviewed above) as well as what Mumford continually describes as ‘the renewal of life’. It is to such writings that we now finally turn.

8

The Renewal of Life

In a critical discussion of Thomas Mann's *The Magic Mountain*, written during the Second World War, Mumford suggests that the novel graphically portrays the conditions of the 'modern crisis' – one of cultural decay, political 'barbarism' (reflected in the rise of fascism) and general social disintegration. The 'cult of the machine' along with a rampant capitalism had become well entrenched and consequently the modern world could be characterized, Mumford writes, by its 'materialistic repletion, its costly ritual of conspicuous waste, its highly organized purposelessness' (1944: 380).

In the final volume of *The Renewal of Life* series, *The Conduct of Life* (1951), Mumford takes up again the problems generated by industrial civilization – social and ecological – and offers suggestions for what he refers to as 'the renewal of life'. We have reached a point in human history, Mumford contends, where humans have become their own worst enemies, and now have the power and capability of destroying the earth: 'the more Godlike our powers have become, the more demonic our applications of this power have often turned out' (1951: 5).

Nai 'vely believing that human improvement follows directly from 'the conquest of nature', the 'prophets' of mechanical progress have in fact led us astray – and the outcome has been widespread ecological degradation; gross social inequalities, such that only a minority of people fully enjoy the 'usufruct' of civilization; economic slavery and forced labour for large sections of the working population; and a resurgence of war, barbarism and genocide – even the Allies during the Second World War resorting to the fire-bombing of innocent civilians (1951: 12). Humans have been reduced to automatons ('desiring machines' or 'meme machines' in contemporary academic parlance); there has been a widespread 'relapse into nihilism' accompanied by a resurgence of gambling, spiritual quackery and religious fanaticism; and Western culture has become so besotted with the machine and with the 'sign of power' that it has itself become virtually 'inimical to life'. Wholly engrossed in the fabrication of machines and the control and exploitation of the natural world, Western

civilization, Mumford concludes, is experiencing a 'moral breakdown' as well as neglecting the development and fulfilment of the human personality (1951: 13).

Like Tolstoy and Lenin before him, Mumford continually invokes the question 'What is to be done?' in order to meet the 'crisis' that besets Western civilization. The concluding chapters of many of his books therefore offer suggestions regarding the 'renewal of life', and the social, personal and ideological transformations necessary for this renewal. He notes that most of the utopian dreams of the past have become practical necessities: 'a worldwide co-operation of peoples, a more just distribution of all the goods of life and the use of life itself for the extension of the human spirit' (1951: 3). Therefore, Mumford suggests, three alternatives are open to us regarding the impending 'catastrophe'.

One is the acceptance of the status quo – the affirmation of all existing institutions, specifically capitalism, the megamachine and liberal democracy, as advocated by the neo-liberal triumphalists such as Francis Fukuyama (1992). This mode of action simply aggravates the present crisis, and, given the availability of nuclear bombs, or what is now described as 'weapons of mass destruction', humans could very well put an end to civilization itself.

The second alternative is what Mumford describes as a reaction, an attempt to stabilize social life by 'fixation and compulsion' – reflected he felt in the totalitarian fascism as practised in Germany, Soviet communism (in spite of its early eutopian vision of brotherhood and freedom) the Roman Catholic Church and, of course, contemporary religious fundamentalism. This second alternative he considered to be ultimately self-defeating, as well as untenable. As human life always implies change and development, recourse to romantic primitivism and medievalism was also, Mumford argues, not a reasonable option.

The only viable alternative therefore, for Mumford, was the creation of new patterns of social life – the 'road of renewal' (1951: 18–21). This implied a more adequate social philosophy, which he described as 'organic' (discussed above); new forms of urban life, based on the idea of a regional city; a post-capitalist form of economy; a more participatory form of democratic politics; the directing of technology towards more humane and life-affirming purposes (rather than being simply the handmaiden of profit and power); and, finally, the development of a more balanced personality, focused on the fulfilment of life rather than on the mere acquisition of material wealth and political power. Every human person has a right to claim, Mumford writes, the highest goods of life – 'sensibility,

intelligence, feeling, insight – and all that goes with the development of the human personality’ (1951: 6).

The ‘renewal of life’ for Mumford thus took many forms. To conclude Part 1 I shall briefly review some of Mumford’s suggestions for creating the social conditions necessary for the renewal of both the human personality and the community. But I begin with Mumford’s early suggestions on the ‘renewal’ of the landscape.

Renewal of the Landscape

The influence of land is often seen as significant only in relation to tribal societies, such that with the coming of civilization – trade and manufacture, metallurgy, literacy, city life – the land tends to diminish in importance. Mumford argues to the contrary, suggesting that the importance of land actually *increases* with civilization: the human impact on the landscape is far greater, people’s relationship with the land becomes more diverse and complex, and the whole aspect of the earth is radically transformed. Bridges, canals, gardens, orchards and vineyards, the ploughed field and the city are all visible signs of humanity’s changing relationship with the landscape: ‘To understand the land, to appreciate the landscape, to turn to it for recreation, to cultivate it for food and energy, to reduce it to an orderly pattern for use’ – all these functions became increasingly important with the development of civilization (1931: 60).

During the nineteenth century two important and complex events occurred which radically transformed European people’s relationship to the landscape. One was the Industrial Revolution, and the pollution and degradation associated with the paleotechnic era, one of blight, waste and defilement, which Mumford described in *Technics and Civilization* (1934). The other was the settlement and colonization of the American continent by the Europeans. Besides displacing the native American Indians, this expansion involved, Mumford writes, ‘the destruction of the forest, the depletion of the soil, the extirpation of wildlife, the upsetting of the natural balance of organisms’ (1931: 65). These events led, towards the end of the nineteenth century – long before environmental philosophy – to the development of an approach to the landscape that was radically different from the aggressive and utilitarian spirit of the early European pioneers. A new philosophy of nature emerged that was essentially ecological: it was not simply an expression of the romantic movement; rather, Mumford

suggests, this new sense of land was ‘scientific and realistic’ (1931: 65).

Besides Goethe and Darwin (and the philosophers of organicism earlier discussed), two key figures are seen by Mumford as important in the development of a more holistic philosophy: Henry David Thoreau and George Perkins Marsh. Born in Concord and strongly influenced by Emerson’s transcendentalist philosophy, Thoreau was essentially a poet-naturalist. He repudiated mechanistic science, and emphasized the limitations of viewing nature simply as a source of commodities. Taking a more phenomenological approach, Thoreau sought in nature, Mumford writes, ‘all the manifold qualities of being’, especially its aesthetic qualities. He thus aimed to convey in his writing the many possibilities of nature. Though indicating no disdain for science, Thoreau, like the old herbalists and naturalists, would not allow science to take precedence over other forms of understanding. Science practised in this fashion, Mumford avers, ‘is truly part of a humane life’ (Miller 1986: 275).

In his natural history observations and in his journeys through Connecticut and Maine, Thoreau focused on the ‘totality’ of the natural world in all its diversity, and thus, as Mumford expresses it, ‘tasted the land’ (1931: 68). Equally important, Thoreau emphasized the importance of the ‘wilderness’ as a common heritage, a source of aesthetic and spiritual inspiration, as well as a place of recreation. Often interpreted as a romantic ‘primitivist’ and as an arch-individualist, Mumford argues that Thoreau was neither. Thoreau did not advocate a primitivist return to nature, nor the re-creation of a tribal society (as primitivists urge) but rather, Mumford suggests, ‘one returned to nature in order to become, in a deeper sense, more cultivated and civilized’ (Miller 1986: 278). Mumford notes Thoreau’s deep influence on the naturalist John Burroughs, and on his own friend Benton Mackaye, who like Mumford was an advocate of regional planning and was the creator of the famous Appalachian Trail (1931: 69). Thoreau, of course, had an important influence not only on Gandhi, but on the libertarian socialist Henry Salt (for useful studies of Thoreau and romantic ecology see Salt 1896; McIntosh 1974; Worster 1977: 57–111; Walls 1995).

Diplomat, lawyer, farmer and politician, George Perkins Marsh is described by Mumford as the ‘fountainhead’ of the American conservation movement – although it is of interest that he is barely mentioned in Worster’s (1977) history of ecological ideas.

A scholar in the broadest sense, Marsh’s study *Man and Nature* published in

1864, is a classic account of the impact of human activities on the natural world. As Mumford indicates, Marsh tended to view humans as a disruptive force, their negative impact being manifested in deforestation, soil erosion and desertification. As Marsh put it: 'Man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discords'. Equally significant was Marsh's emphasis on the need for active stewardship that would curtail private property rights. Marsh expressed this well in an oft-quoted phrase: 'Man has too long forgotten that the earth was given to him for usufruct alone, not for consumption, still less for profligate waste' (1864: 36). Important to Mumford was the fact that Marsh stressed that humans in relation to the landscape should act as 'moral agents'.

It is well to note, however, that Marsh strictly adhered to the Christian doctrine that humans were not a part of nature, but free moral agents whose mission it was to subdue and domesticate nature – though not in a reckless or wanton fashion. The practical measures that Marsh suggests in his study – controlled grazing, re-afforestation, the stabilizing of sand dunes, the checking of soil erosion, monitoring environmental impacts – thus essentially serve the enlightened self-interest of humans (Lowenthal 2000: 406). In spite of this anthropocentrism, Mumford nevertheless felt that Marsh had heralded a new form of environmental awareness, one that indicated the need for a more enlightened 'partnership' between humans and nature. Mumford also noted Marsh's seminal importance in advocating the setting aside of 'wilderness' tracts as national parks or as 'sanctuaries of nature'. It is worth noting that the first national park, Yellowstone, was established by the United States federal government in 1872, shortly after the publication of *Man and Nature* (Lowenthal 2000: 419).

To counter the ill effects of the depopulation of the countryside, an irrational market economy and the growing megalopolis, Mumford advocated a regional outlook and regional planning. This implied that: 'we can no longer leave soils and landscapes and agricultural possibilities out of our calculations in considering the future of either industries or cities' (1938: 305). Taking his cue from Thoreau, who suggested that every community should retain a portion of 'wilderness' as part of its domain, Mumford argues that there is a need for humans to create an environment where there is a balance between the landscape and human activities – in all their diversity. A satisfying level of economic life or culture cannot be achieved, he felt, in an environment whose resources had been plundered and defaced, or had become little more than a 'metropolitan desert',

an urban sprawl devoid of organic life (1938: 335, 1951: 286). Given that human aspirations and needs are diverse and multifaceted, Mumford argues that a 'regional framework' of civilization should envisage the 'earth as home' and incorporate a wide variety of different environments. These would include 'primeval' landscapes or 'wilderness' areas, such as mountains, moorlands or coastal sanctuaries, and cultivated landscapes – a countryside of woods, meadows and arable land, as well as a diversified urban environment. The city, however, was to be situated within a bioregional landscape that gave people a sense of identity or place – one quite distinct from that of the nation-state. This implied the common ownership of land, usufruct and not exclusive property rights, the trusteeship and supervision of the land being in the hands of appropriate municipal and regional authorities; and a decentralized and participatory form of democracy: Mumford was an advocate of regional *not* state planning (1938: 329).

However, economic regionalism did not for Mumford imply cultural and economic self-sufficiency, still less any form of autarchy (1938: 345). Neither did regional planning entail merely preserving pristine habitats, but rather extending the range of cultivation and introducing the culture of the landscape into every part of the environment. Thus, following the suggestions of Ebenezer Howard and Frederick Law Olmsted, nature would be brought into the urban context by means of urban parks and nature sanctuaries, and thus the city would be 'naturalized' (1931: 88).

The landscape, in all its aspects, was seen by Mumford as a 'communal resource', not private property: regionalism and a democratic vision were thus intrinsically linked. As Ramachandra Guha argues, Mumford was somewhat unique among environmental philosophers in his ability to synthesize, and to transcend, the rather partisan stances on behalf of the wilderness, countryside or city. In his bioregional perspective Mumford incorporates all three elements: 'the preservation of the primeval wilderness, the restoration of the stable rural landscape and the salvaging of the truly urban' (1996: 219; for a contemporary advocate of bioregionalism see Sale 1985).

In advocating the importance of rebuilding regional cultures, Mumford made a clear distinction between two forms of unity. First, 'unity by suppression', as entailed by mechanistic philosophy and state power. This implied uniformity and regimentation – a differentiated unity that was characteristic of totalitarian states. emphasizes shared understandings though stressing universalism, puts an equal

emphasis on diversity – of organic life and human cultures – as well as on the autonomy of the human personality (1934: 308, 1938: 311). It was this second form of unity that Mumford always advocated, and the suggestion by Keulartz (1998) that Mumford's holistic philosophy implied totalitarian politics is thus quite fallacious.

Second, 'unity by inclusion' which and common elements. This unity,

A Post-Capitalist Society

Although never spelt out in great detail Mumford also envisaged a 'postcapitalist' economy, where capital investments were directed to the better fulfilment of human needs – social and personal – rather than in the generation of private profit. He advocates a form of 'basic communism', giving a more concrete expression to formal equality and liberty, and the formation of a 'life-centred economy' that would supplant capitalism – given the latter's expansion through imperial wars and the power of the monopoly corporations. What was needed therefore was a balanced economy, the decentralizing of power in all its manifestations, and the directing of machine technology towards renewing the forces of life. Technology and social organization should return, as Mumford put it, to the 'human scale' (1951: 277).

Regionalism, involving regional networks of organic communities, and a balance between agriculture and industry, and between open and developed spaces, is Mumford's practical alternative to the conformity and uniformity of 'machine civilization'. Though never over-indulging in 'nostalgia', Mumford lamented the absence of small-scale, decentralized industries, and, according to Howard Segal, tended to view romantically the world of Emerson and Thoreau – New England in the early nineteenth century (1990: 105–106).

Western Europeans, Mumford fervently proclaimed, have now exhausted the dream of 'mechanical power' – a dream which has so long dominated the Western imagination. As he writes: 'the dream that man can make himself Godlike by centering his energies solely on the conquest of the external world has now become the emptiest of dreams; empty and sinister' (1944: 412). It is a dream however, that still pervades the mindset of many advocates of global capitalism.

Given the challenge of the present crisis, as Mumford envisaged it at the end of the Second World War, he places great emphasis on the need to develop a

‘universal culture’, as well as to promote ‘world fellowship’. He always stresses the importance of ‘universalism’, the recognition of a common humanity and universal ethical codes and aspirations – and he explores the historical development of the concept of ‘humanity’ in many of his studies. Along with the biological, physiological and social aspects of the human personality, the universal ideal is also viewed by Mumford as an integral part or layer of the human psyche (1957: 65). This universal aspect is well articulated by the axial religions (especially Buddhism), Stoic philosophy, Christianity and Islam, and the cosmopolitan humanism of the Enlightenment.

Nevertheless, Mumford recognized, long before the postmodernists, that universalism often assumed repressive or extremely negative forms – when expressed in arrogant forms of imperialism, especially in colonial and missionary endeavours, and in the ‘totalitarian conformity’ of technical universalism. Again, it may be noted that Mumford made a clear distinction between mechanical uniformity and organic universalism (1951: 237; 1957: 142–143).

Viewing ‘universalism’ as at the very centre of the new integration of life, Mumford strongly advocated the formation of a ‘world government’. This is a political gesture that seems to run counter to an equally strong advocacy of participatory democracy and bioregionalism, and the need to restore the organization of social life to the ‘human scale’. All the various groups and institutions of contemporary society – the family and the home, schools, the neighbourhood and the city, the work group and the factory – should all, he felt, be organized and ‘self-governed’. And Mumford follows the anarchists in suggesting that not only should most social groups be limited in size, but that ‘All organic communities of a larger stature should, ideally, be formed by the federation of smaller units’ (1951: 276).

All this sits uneasily with Mumford’s advocacy of a world government and the democratic state. Mumford looked upon the modern state as an enemy of culture, its only significant purpose being to preserve justice and liberty among its constituent regions, cities, associations and corporations (1976: 316). Mumford’s political views thus have much in common with the guild socialists.

Communitarian Politics

Many, of course, have written on Mumford’s disinterest in politics, his

‘Olympian aloofness’ from the political arena, and the fact that he always distanced himself from left-wing politics, particularly Marxism. The reason, of course, is that Mumford was a strong advocate of communitarian politics and extremely fearful of the concentrated powers of the nation-state. He thus had little time for political parties, and like the anarchists, eschewed statist politics – the notion that lasting and radical reforms could be achieved through state power. Nevertheless, Mumford was a lifelong ‘protestor’ against social injustice and American imperialism.

In his emphasis on decentralized power and participatory democracy, Mumford’s politics were very different from those of Dewey and the Marxist socialists. As Casey Blake writes: ‘Mumford’s hostility to the state as an agency for reform was always a submerged element in his debates with Dewey’ (1990: 228).

Mumford was certainly correct in describing himself as neither a ‘liberal’ – given his antipathy towards laissez-faire capitalism and his advocacy of basic economic communism – nor a ‘revolutionary’, in the sense of repudiating Marxism and statist forms of socialism. In fact, in ignoring cultural values and the importance of the human personality, Mumford suggests that the revolutionary Marxists were rather ‘superficial’ and did not go ‘far enough’ in their radicalism (1976: 315). Needless to say, Mumford’s evolutionary form of socialism, his hostility to statist politics and his emphasis on ‘cultural renewal’ as a form of politics, were harshly critiqued by many Marxist intellectuals. Mumford’s writings were seen as lacking any serious analysis of class issues or of power relations, which given his focus on cultural renewal is to some extent true. Like the anarchists, Mumford’s aim was ‘not to capture the citadel of power, but to withdraw from it and quietly paralyze it. Once such initiatives become widespread it will restore the power and confident authority to its proper source: the human personality and the small face-to-face community’ (1970: 408; Blake 1990: 297). The emphasis on communitarian politics and on co-operation and mutual aid did not in the least entail passivity, or an end to debate and conflict, but rather a resolve to live with conflicts and a cultural ‘state of tension’ wherein ‘growth and renewal may continually take place’ (1930: 359; Blake 1990: 300). The ‘public sphere’ for Mumford did not involve statist politics, but open debates within local communities.

The creation of a radically new society that Mumford envisaged, which would put an end to a world given over to ‘devitalized mechanisms, desocialized organisms and depersonalized societies’ (1944: 395) would entail not only

changes in social life and the political economy, but also changes in the human personality. The renewal of life thus begins, Mumford affirms, with the development of the human person – as a whole and balanced personality. As Mumford writes, even for the humblest person ‘a day spent without the sight and sound of beauty, the contemplation of mystery, or the search for truth and perfection is a poverty-stricken day’ (1944: 420). Always emphasizing the importance of a balance between the human personality and the community, Mumford acknowledged the human need for withdrawal, solitude and contemplation. Opposed, however, to the cult of the personality or social redemption by means of some political or religious ‘saviour’, Mumford, like the Buddha, affirms that each person should be a ‘refuge’ for themselves. Each person must first ‘silently assume his own burden’ (1944: 422).

Equally important, human life is not simply one of survival, although this has to be acknowledged and affirmed: it is also one of fulfilment in the widest sense (1944: 413). Mumford thus felt that there was a real need to ‘slow down the tempo of life’ – given the current obsession with speed – and to think organically, rather than in mechanistic terms (1951: 261). Against ‘purposeless materialism’, Mumford emphasizes the importance of the simple life, though opposed to needless asceticism. As he writes: ‘Simplicity itself is not the aim of this effort: no, the purpose is to use simplicity to promote spontaneity and freedom, so that we may do justice to life’s new occasions and singular moments’ (1951: 273).

Although Mumford continually expresses the need for ‘wholeness’ and the ‘dynamic balance’, both in terms of the human personality, and in his suggestions for new forms of social life, this did not entail an ‘undifferentiated unity’, still less a ‘unity by suppression’. For Mumford always affirmed the ‘primacy of the historic person’ and the autonomy of the individual organism. The essential idea of the organic worldview, Mumford writes, is ‘the primacy of life, and of autonomous but perpetually interrelated organisms as vehicles of life’. Though every organism, and every human person, is a part of ‘the general web of life’ they have nonetheless an autonomous existence reflected in their growth, renewal and agency (1938: 301–302, 1951: 229).

An admirer of Mumford, his contemporary Erich Fromm describes him as ‘one of the most outstanding humanists of our age’ (1968: 29). There is therefore a strong humanistic, indeed anthropocentric tone, to Mumford’s writings. Yet in his discussion of the need for a balanced personality, combining reason,

creativity, feeling and love, it is of interest that Mumford took as an exemplar of this integral personality the missionary-scholar Albert Schweitzer. Given the diversity of Schweitzer's talents and, more importantly, his central ethical doctrine – 'the reverence for life' (1951: 207–213), there is within Mumford's organic humanism also an ecocentric dimension. Indeed the radical dichotomy between anthropocentrism and ecocentrism, utility and aesthetic, beloved by deep ecologists, environmental philosophers and romantic poets, is unhelpful, abstract and somewhat anachronistic – metaphysical, as Engels would put it (1940: 153). Certainly aware of the need to 're-enchant humanity' – as Bookchin (1995b) advocates – Mumford also emphasizes the need to embrace the 'wider scheme of life' in our ethical considerations:

it follows that part of our love must be expressed by our relation to all living organisms and organic structures: some of our love must go to the sea and the river and the soil, restraining careless exploitation and pollution: the trees and the wild creatures of the forest, the fish in the rivers, are as subject to our affectionate care as the dogs or the cats who live in close dependence on us.

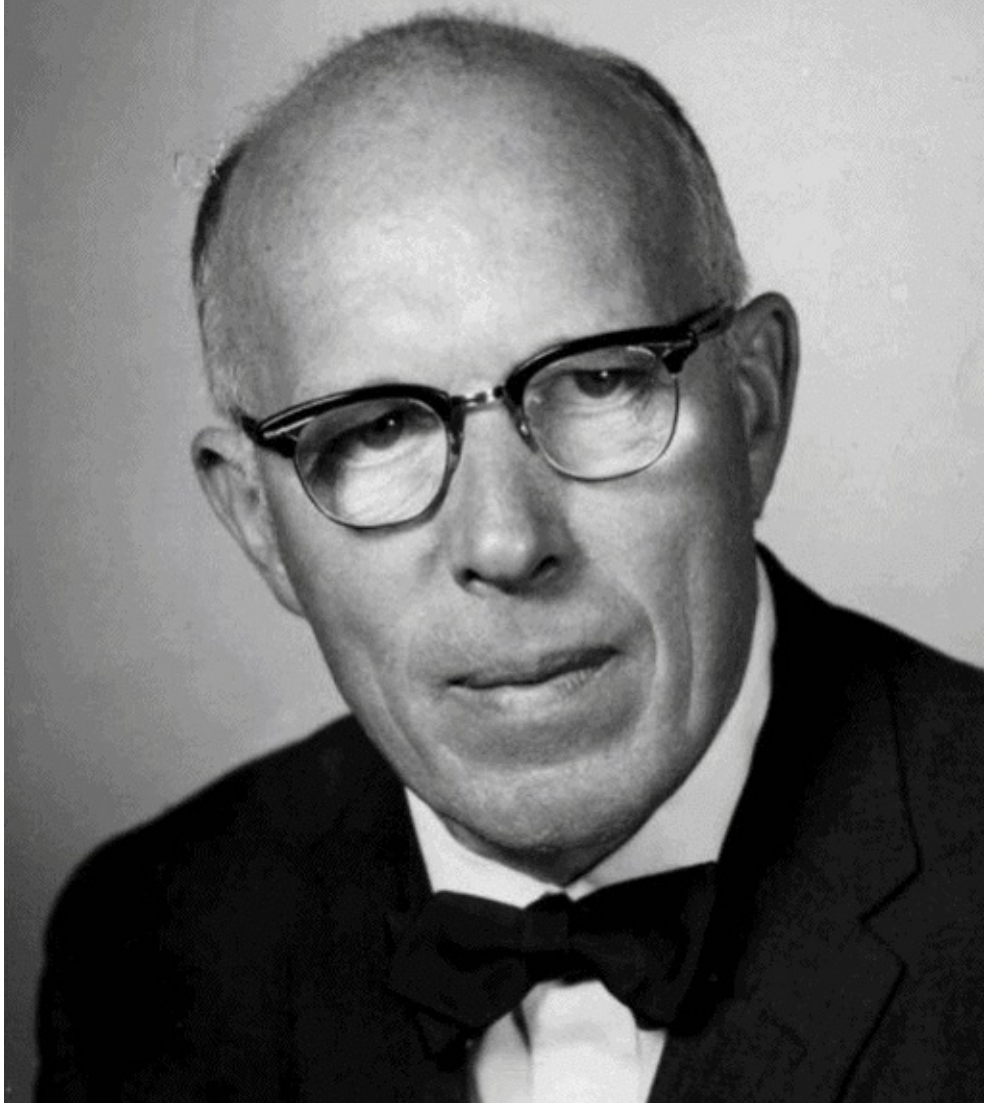
(1951: 286)

Humans must therefore, Mumford contends, develop a sense of 'active partnership' and 'fellowship' with the natural world. Religion, in fact, he defines as a sense of 'community with all life' (1976: 323).

Mumford's writings, of course, are not without their limitations and blindspots. *The Renewal of Life* series has an undoubted Eurocentric bias, and although Mumford emphasizes the important role that women played in early agriculture, his works tend to lack a gender perspective. In his lyricism Mumford also had a propensity not only to personify cultural traditions, but to treat certain theoretical abstractions, such as the 'megamachine', as if they had historical agency. But all in all, Mumford's reflections on the 'renewal of life' are insightful, comprehensive and of enduring value. He has rightly been described as one of the 'last of the great humanists' (Miller 1989: xvii).

Lewis Mumford died in 1990, aged ninety-four, in his sleep with his wife Sophia near his bedside. For almost seventy years she had been his constant companion, and certainly had a profound influence on his life and work.

Part 2



Rene' Dubos and Ecological Humanism

9

Rene´ Dubos and the Celebration of Life

At the age of eighty-one, shortly before he died, Rene´ Dubos wrote a short essay entitled ‘A Celebration of Life’. It sums up, in only a few pages, the lifephilosophy of this remarkable man, who often described himself as a ‘despairing optimist’. Yet there are few notes of ‘despair’ in his writings, and though highly critical of what he described as ‘industrial civilization’ he was never a prophet of doom. Dubos always loved the earth, and at an early age, he writes, he fell deeply in love with the world of things and of people, and came to acknowledge that ‘simply being alive is the greatest blessing we can enjoy’ (Piel 1990: 48).

Rene´ Jules Dubos (1901–1982) was greatly influenced by Lewis Mumford; indeed, he came to describe Mumford as a ‘seer’ and as perhaps the greatest man in America (Chisholm 1974: 15). Like Mumford, Dubos was not a professional ecologist, and although he was always a strong advocate of an ecological approach to health and medicine, he did not begin writing on wider ecological issues until much later in his career. Nevertheless, many of Dubos’ aphorisms – ‘only one earth’, ‘think globally, act locally’, ‘trend is not destiny’ – were taken up as slogans by the emerging environmental movement of the 1970s, and Dubos’ best-selling text *So Human An Animal* (1968a), a sustained attack on contemporary industrial society (which he felt was set on a suicidal course), had an important influence on ecological thought.

For much of his life Dubos worked as a microbiologist and experimental pathologist, and is credited with having played an important role in the discovery of antibiotics. He was brought up at the turn of the twentieth century in the small village of He´nonville, in the Isle de France, some fifty kilometres north of Paris. To the end of his life, Dubos retained vivid recollections of his early childhood, even though he left Europe for the United States at the age of twenty-three. For most of his life Dubos lived in the Hudson River Valley, and worked at the Rockefeller University in New York City. The village where he grew up, Dubos writes, was not on any map, consisting of only around 450 inhabitants – and until the age of thirteen he never even left the village. But memories of the

sensual world of the French countryside, with its narrow lanes, open fields of wheat and alfalfa, muddy ponds full of frogs, the small verdant woodlands and the lichen-covered walls of the medieval church in the centre of the village, all these impressions stayed with Dubos throughout his life. They are often invoked in his writings. Dubos had a vibrant sense of place; even so, he did not visit his home village again until he was in his seventies – some sixty years after leaving He´nonville. The son of a local butcher who died at the end of the First World War, Dubos was deeply influenced by his mother Adeline, a short, dark-haired, vivacious woman – as Dubos describes her (1968a: 9, 1973a: 22, 1981: 6–9).

After studying at the Institute Agronomique in Paris, and microbiology at the University of Rome – where he learned to speak both Italian and English – Dubos left for the United States in October 1924. The move was not motivated by any feeling of discontent, nor by a desire to escape from difficult circumstances: Dubos simply wanted to try his luck in a land reputed to be one of unlimited opportunities. He thus came to live and work in the United States for the remainder of his life, becoming an American citizen in 1938. Dubos recalls, however, that he was never homesick, and felt entirely at home in the United States. Yet he admits that he had reservations about describing himself as an ‘American’, for he always retained rural sentiments (he loved walking in woods and fields) and the social attitudes he acquired growing up in a small country village in France (1968a: 9).

In 1930 Dubos spent the summer vacation travelling across the United States from New York to the north-west Pacific coast, and notes that everyone he met took him to be of Scandinavian origin – for he was almost six feet tall, rather lanky, with blue-green eyes and flowing blond hair, looking he said rather like a Viking. In later years, Anne Chisholm records, Dubos was still large and substantial, though slightly hunched about the shoulders, and looked rather like a French peasant with a very pronounced French accent (1974: 13–14).

It is noteworthy that Dubos’ first wife, a French woman from Limoges, died of tuberculosis at an early age during the Second World War. This led Dubos to develop a particular interest in the study of the tuberculosis bacillus as well as of the disease, and eventually to write, with his second wife Jean, also a microbiologist, the classic study *The White Plague: Tuberculosis, Man and Society* (1952). In studying this disease, combined with his experimental work on the microbe associated with pneumonia, Dubos came to realize the crucial importance of environmental factors in understanding the life history of bacteria,

as well as patterns of disease. He thus, in his later

RENE´ DUBOS AND THE CELEBRATION OF LIFE

years became, like Mumford, a premier spokesperson for the emerging environmental movement. With the well-known British economist Barbara Ward, Dubos drafted the pioneering report *Only One Earth*, the book which set the agenda for the 1972 United Nations Conference on the Human Environment, held in Stockholm (Ward and Dubos 1972).

By all accounts Rene ´ Dubos was an extremely amiable and outgoing person – pensive, sincere, knowledgeable, with an infectious sense of humour, and was always attentive and accessible. He was something of a Renaissance figure, for his scholarship spanned several disciplines, and he was not only recognized as an outstanding microbiologist, but also as a pioneer ecologist. Along with Paul Goodman, Lewis Mumford and Murray Bookchin, Dubos can perhaps be described as one of the last of the public intellectuals – for he wrote not only for professional scientific journals but in a ‘public prose’, and all his many books are lucidly written, engaging, insightful, sometimes provocative, yet always free of academic jargon (Jacoby 1987: 7; Piel 1990: 4–5). Dubos was also helpful to younger scholars and activists, and Bookchin records that Dubos, along with Mumford and Herbert Marcuse, supported the social ecologists’ early studies. Indeed, Bookchin describes Dubos as that ‘grand old man of social ecology’ (Bookchin 1962: xiv, 1999: 254). Surprise, surprise! In a recent book on social ecology (Light 1998) there is no mention of Dubos, and Mumford only gets a brief role – but then most of the contributors to the text are university academics!

But what most appealed to his many colleagues was Dubos’ sense of wonderment and optimism, and his continual emphasis on the importance of *joie de vivre*, the purely biological enjoyment of life. This he always linked to the ‘subtle experience’ of universal fellowship, not only with other humans but with all forms of life. *Joie de vivre* always involved the organism as a whole, and was akin, Dubos felt, to Albert Schweitzer’s expression ‘reverence for life’. It implied that our most basic perception is not the *cogito* of Descartes, but the very awareness of existence, the apprehension of the continuity and power of life (Piel 1990: 41–43). This led Dubos to describe himself as a phenomenologist, and to emphasize that good humour and joyous feeling are essential factors not only in curing illnesses, but in maintaining good health – an idea he traced back surprisingly to one of the letters of Rene Descartes, a scholar usually dismissed

as a crude mechanistic philosopher (Piel 1990: 13–17).

At the end of his life Dubos was to affirm that he had ‘always loved the world’, and bewailed the fact that in contemporary Western society, given its emphasis on technology, many people had lost the ability to appreciate ‘the simple wonders of life’. Thus we need to rediscover, he suggests, our ‘innate celebration of life’ and to prize happiness and *joie de vivre* over and above the acquisition of power, wealth and status. Life starts anew, he wrote, for all of us with ‘each sunrise’ (Piel 1990: 50).

A research scientist and microbiologist of international acclaim, Dubos was the author of numerous books and scientific and popular articles on a wide range of topics and issues, ranging from the biology of bacteria and infectious diseases to the history of science. In this part of the book devoted to Dubos I make no attempt to review his immense achievements and interests, but rather focus on his seminal role as an ecological philosopher, and especially on the two books, both written for a popular audience, that outline his main ecological ideas and concerns: *A God Within* (1973a) and *The Wooing of Earth* (1980).

In Chapters 10 and 11 I discuss Dubos’ humanistic biology and his concept of human nature – the importance of symbiotic relationships, the dual nature of human subjectivity, his stress on human creative agency, and his thoughts on cultural evolution and the development of the human personality. Given that the ecology of health and disease was a central topic of interest for Dubos, in Chapter 12 I briefly outline his thoughts on this subject, focusing on his classic text on human biology, *Man Adapting* (1965a). In Chapter 13 I focus on Dubos’ study *A God Within* which presents what he describes as a ‘theology of the Earth’. This suggests an enlightened form of anthropocentrism, akin to the active stewardship towards nature that Dubos associates with the sixth-century Christian monk St Benedict. I outline Dubos’ thoughts on the Gaia hypothesis, his critical reflections on Lynn White’s well-known thesis on the roots of the environmental crisis, and the contrast that Dubos makes between the Promethean attitude to nature, and both the Arcadian and the Faustian. In Chapter 14 I discuss the ubiquity of cultural landscapes, an important topic for Dubos, but one generally neglected by environmental philosophers and deep ecologists. In the remaining two chapters I discuss Dubos’ response to the ecological crisis and his thoughts on the ‘wooing of the earth’ – a notion he took from Rabindranath Tagore – and his advocacy of evolutionary holism.

The Living World and Human Nature

The title of Dubos' well-known and comprehensive survey of human biology, *Man Adapting* (1965a) is in many respects something of a misnomer. For Dubos argues that humans are never simply passive components in adaptive systems, merely reacting to their physical and social environments; on the contrary, their responses commonly manifest themselves as acts of creative agency. As he put it: human beings are animals linked to inanimate matter, but human life also 'transcends its earthly origins'. Thus humans are seen by Dubos as dialectically linked to nature. On the one hand an intrinsic part of nature, appearing as an 'assembly of organic materials, very similar in composition and properties to those found in other living forms'; while, on the other hand, separate from nature – an organism responding to stimuli in a manner which sets them 'apart from the rest of creation' (1965a: xvii).

Making a distinction between reaction and response, Dubos thus emphasizes that human adaptation cannot be regarded as merely the result of humans reacting to environmental forces. In the case of human beings, health and well-being, for example, means more than a state 'in which the organism has become physically suited to the surrounding physio-chemical conditions through passive mechanisms; it demands that the personality be able to express itself creatively' (1965a: xviii).

The existentialist philosopher Jose Ortega y Gasset (1961) famously declared that 'Man has no nature: what he has is a history'. Although there is some truth in this statement it is far too simplistic, and Dubos suggests that while it is useful to differentiate between the various factors that influence human life – genetic, historical and environmental – the human person is an integrated being, and 'all these forces operate simultaneously, in every event of [their] life'. Humans are indeed a product of history, but their history is far more complex and diverse than Ortega's statement would suggest. Humans are biological, psychological, social and cultural beings, and their physical and mental state, their health and well-being, and their way of life is always conditioned, Dubos argues, by all the 'multiple determinants' of their nature (1965a: 2). Like Mumford, Dubos

therefore suggests that human life must be approached holistically, not in terms of a reductionist epistemology, for all aspects of human life are inter-related (1965a: xix).

Humans have, of course, always been aware of their kinship to animals, and of being an intrinsic part of the 'web of life'. They therefore recognize, along with St Francis and Albert Schweitzer, the need to acknowledge a certain 'reverence for life'. Indeed, since the nineteenth century and the development of evolutionary theory, most 'Western' people acknowledge, even though still embracing Christianity, that all living beings have evolved and are therefore biologically related. Dubos notes that the Greek philosopher Aristotle long ago emphasized the continuity between inanimate matter, plants (a 'middle kind') and animal life, while during the late medieval period the doctrine of a 'great chain of being', a *scala naturae*, was outlined embracing all forms of life, as well as spiritual beings (Lovejoy 1936). Within this hierarchical cosmic order, which recognized degrees of perfection, and placed God at the pinnacle, humans were positioned high above other animal species, and seen as an 'image' of the deity (Dubos 1968b: 8–9). That the earth was created solely for human use was thus affirmed by St Augustine, and Dubos quotes from Bernardin de Saint-Pierre, who in his *Etudes de la Nature* (1784), had written: 'The Creator has aimed . . . only at the happiness of man. All the laws of nature are designed to serve our needs' (1968b: 9).

Recognizing that evolutionary development results in the progressive emergence of organisms endowed with greater and greater complexity, Dubos seems to acknowledge a modified form of anthropocentrism. For he writes that evolutionary biology has confirmed the ancient belief that humans occupy 'the highest position on the ladder of life'. This does not imply however that the earth was created solely for human benefit (1968b: 10). Whether or not organic life and its evolution can be conceived in terms of the 'ladder' metaphor, is, of course, debatable.

Evolution and Symbiosis

Evolutionary theory of the nineteenth century, especially as developed by Herbert Spencer and the social Darwinists, tended to emphasize competition and the doctrine of the 'survival of the fittest'. This doctrine was used to justify – Dubos suggests quite unscientifically – 'imperialism, sweatshops, child labour and slums' (1968b: 10). Thomas Huxley embraced this view as it applied to

organic life, but considered humans as moral beings to be radically distinct from animal life. Competition and destruction are, of course, important aspects of the biological world, and Dubos affirms that ‘practically all living organisms eventually serve as food for others and . . . the chain that binds all forms of life is in practice made up of dead bodies’ (1968b: 13). Did not the great French naturalist Jean-Henri Fabre graphically suggest that when all is said and done, life is ‘a knackers’ yard wherein the devourer of today becomes the devoured of tomorrow’ (1913: 241)? Organisms thus do not just ‘connect’ with each other in mechanical fashion (Deleuze) nor simply ‘communicate’ (Bateson), but incorporate into themselves other living beings. That, after death, an organism re-enters the flow of life, generating other life forms through its own decomposition (Brennan 2000: 1) would hardly be news to Dubos and to generations of ecological thinkers and naturalists.

But Dubos follows the Russian anarchist-geographer Peter Kropotkin – an important influence also on Mumford, as we have noted (see Morris 2004: 97) – in emphasizing that the most impressive aspect of the natural world is not the ‘law of the jungle’ or ruthless competition but rather ‘interdependence and coexistence’. Symbiosis, a concept first employed by the German mycologist Anton De Bary in 1878, is intrinsic to organic life, and biological associations and commensal relationships are found throughout the living world, and involve bacteria, fungi, plants and animals in almost every imaginable kind of combination. As examples Dubos mentions the following: lichens, organisms made up of an alga and a fungi; colonies of ants that cultivate fungi and feed on them; the ‘cleansing symbiosis’ of fish and certain kinds of shrimps; the bacteria that live in the root nodules of certain trees and fix atmospheric nitrogen; and, finally, the mycorrhizal associations of many species of orchids. As a microbiologist Dubos also discussed at length the fact that certain types of bacteria are always present in the gastrointestinal tract of mammals, including humans, and play in fact a highly beneficial role (1965a: 91–94, 1968b: 13–14). Dubos emphasizes that creative symbiotic relationships exist at all levels of biological and social existence, and cites, as another example, the fact that plants owe their ability to utilize solar energy to the presence of chloroplasts in their cells, which produce the chlorophyll responsible for photosynthesis. Genetically, the ‘green bacteria’, the chloroplasts, are different from the plant cells in which they function, and originally led an independent existence (Dubos 1980: 145). The pioneering studies of Lynn Margulis have indicated the importance of symbiosis in the evolution of many forms of organic life (Margulis 1981, 1998).

Symbiotic relationships thus refer to biological associations in which each organism contributes to the survival and welfare of its partner; they are thus creative relationships. Examples of such biological creativeness, which results from the integrated activities of two genetically distinct organisms, are to be found, Dubos continually reiterates, in all classes of organic life (1965a: 99). Thus terms like ‘mastery’, ‘conquest’, or ‘eradication’ have, Dubos argues, essentially anti-biological overtones, and indeed symbolize a Faustian attitude (see below) that tends to view humans as above nature; it inspires that humans can best assure their own survival through their destructive powers alone (1965a: 88). Witness the British government’s irrational and unnecessary response to the ‘foot and mouth’ outbreak among livestock in 2001: wholesale destruction. Instead of eradicating living species that may be harmful and troublesome to humans, it may be more wise and effective, Dubos argues, to achieve some kind of ‘peaceful co-existence’ with them. In any case, the outcome of biological inter-relationships is rarely determined by the human propensity to destroy and master. Dubos notes that malarial control in Western Europe during the medieval period was not achieved by the elusive aim of completely eradicating malaria, but rather ‘by keeping the mosquitos at bay through drainage and farming’ (1965a: 88–89).

Human beings are dependent not only on the physical environment and other human beings but also on all other organisms – bacteria, fungi, plants and animals. Ultimately humans will destroy themselves, Dubos opines, if they wantonly eradicate these other life forms, for they constitute the essential components and links in the ‘complex and delicate web of life’ on which human life depends.

Although learned behaviour, and social life more generally, may be of greater importance among humans and social mammals, learning, as well as communication, is intrinsic to all forms of organic life. ‘Learning’ Dubos loosely defines as ‘any change in adaptive behaviour resulting from experience, and this faculty is highly developed even among protozoa’. Thus all animal behaviour is conditioned by the animal’s life experiences and by social memory (1968b: 19–20).

But Dubos also emphasizes that all living organisms, whether they be bacteria, fungi, plants or animals, develop and function under the control of the genes they inherit. Thus the traits that determine the physical and mental personality of each individual organism are undoubtedly under the influence of genetic factors.

Yet while these characteristics, along with physiological functions and behavioural patterns, are conditioned by the organism's genetic profile, these attributes are also conditioned 'by diet, climate, social milieu and countless other factors of the environment' (1968b: 29). The characteristics of an organism are therefore determined both by its genetic constitution and by the forces of the natural and social environments. Yet although the genetic and environmental viewpoints seem to suggest distinct approaches to the study of organic life, both approaches, Dubos emphasizes, are valid, and both are necessary for an understanding of life (1968b: 30).

Thus two different kinds of influences, both historical, play a role in determining the 'nature' of an organism, including humans. One is the accumulated effects of the evolutionary past embodied in the organism's genetic make-up; the other influence is derived from the experiences of the organism during the course of its life-history, its experiential past. Life, and its study (biology) are therefore, Dubos affirms, fundamentally historical (1968b: 30–31). The ancient controversy, 'nature versus nurture', Dubos considered to be a pseudo-problem, for it is based on false premises. Whether the organism be a microbe, plant, fruit fly, whale or human being, 'all its characteristics are hereditary, and all are also determined by the environment' (1965a: 10, 1968a: 65). Thus genes do not determine the characteristics of a person in any simple fashion, they 'merely govern the responses to experiences from which the personality is built' (1968a: 78). Like the contemporary biologist Steven Rose, Dubos affirms that nothing makes sense in biology except in the context of history – and within history is included biological and social evolution as well as the life-history and development of the organism. As Dubos writes:

knowledge of the past is essential for the understanding of life in the present and in the future, not because history repeats itself – which it never does exactly – but because the past is incorporated in all manifestations of the present and will thereby condition the future.

(1968a: 54; see also Rose 2005: 57)

At the present time, writes Dubos, evolutionary theory provides the only viable explanation based on natural laws for the progressive emergence of new forms of life – although future researchers in biology will undoubtedly lead to the reformulation of many biological concepts. But evolution is seen by Dubos as essentially a creative process, evincing both pattern and order, as well as

developing new organic forms. However, emphasizing the fact that humans have a certain independence from environmental factors, Dubos again reiterates that humankind – at least in this respect – unquestionably occupies the ‘highest position on the ladder of life on earth’ (1968b: 34). This anthropocentric bias on the part of Dubos leads him to suggest that humans, in contrast to other animals, may be considered to be ‘apart’ from nature. In ways similar to that of the historical Buddha, Dubos advocates a form of enlightened humanism or anthropocentrism, while at the same time recognizing the integrity and intrinsic value of other forms of life. Unlike Buddhism, however, Dubos affirms the reality of the empirical self or human personality, as distinct from the metaphysical self (*atma*) of other religious traditions (cf. Rahula 1959; on the reality of the self see Tallis 2011: 270–274).

The Concept of Human Nature

As members of the animal kingdom humans are directly linked, through evolutionary descent, to other living beings, and are indirectly related to inanimate matter. Dubos quotes Paul the Apostle – that humans are ‘of the earth, earthy’ (I Corinthians 15:47). But human life is unique, and thus humans have, in a sense, a ‘dual nature’ expressed in their animal attributes and in the ‘humanness’ of their lives (1968b: 35). Tool-making, social life, cognition and communication all exist to some degree, Dubos writes, among other animal species, particularly the social mammals, and thus humans are characterized less by their biological and social endowments than by what they have ‘created from them’. Crucial in this regard is human sociocultural life, leading Dubos to suggest that human life is essentially the product of ‘the social and cultural forces that have made history’. Dubos, like Mumford, therefore comes to suggest that our understandings of the world are to some degree socially mediated. He thus writes that the responses of humans ‘are determined less by the direct effects of external stimuli on [their] body fabric than by the symbolic interpretation attached by each individual person to each stimuli’ (1968b: 36, 1968a: 119). Cultural forms thus come to acquire something of a ‘life of their own’, and the human personality, given its experiences and activities, a certain unique quality.

The term ‘evolution’, Dubos acknowledged, often has diverse meanings, and had been applied to the historical transformation of biological species, the physical and mental development of the individual person, as well as the ‘progressive alterations’ of socioeconomic structures. What Dubos was keen to emphasize

however was that all evolutionary phenomena necessarily involve 'feedback processes' between the organism, its environment and its way of life. As an example, he cites the co-evolution of certain insects (or birds) and that of flowering plants, their mutual adaptations involving what he describes as feedback or 'cybernetic' mechanisms. Thus mutual anatomical adaptations have developed progressively through small adaptive changes occurring over millions of years of 'continuous interplay' (1968a: 58).

Like Mumford, Dubos attempted to draw together the biological and social sciences, and he noted that while biologists tended to emphasize the biological continuity between human and other members of the animal kingdom – all having evolved from a common ancestor – sociologists, as well as scholars in the humanities, focused on the sociocultural aspects of human life. The latter scholars tended therefore to stress the fact that humans are set apart from the rest of nature – that they differ not only in degree but in kind from other animals. Clearly attempting to mediate between these two intellectual traditions, Dubos thus affirms the 'dual nature' of *Homo sapiens*. But while emphasizing the genetic aspects of the human species, and the biological and psychic unity of humankind, Dubos also stresses the crucial importance of human symbolic life and the 'cultural heritage' embodied in specific communities. As he writes: 'Mankind emerged in the very process of creating culture and became dependent on the new world thereby created; the world of culture constituted from then on the natural environment of human life' (1968b: 49).

This leads Dubos to suggest that sociocultural forces are now vastly more important than genetic ones in the understanding of human societies, and he is clearly sympathetic to Julian Huxley's suggestion of a 'psychosocial phase' in a more general cosmic evolutionary process. But while acknowledging that cultural forces are profoundly important in all human activities, Dubos denies the notion, seemingly implied by many social scientists (and poststructural philosophers) that humans have somehow 'escaped from the clutches of biology'. In reality, Dubos argues, biological (and genetic) factors still profoundly affect both the human person and social life (1968b: 55). As he writes:

'When human societies alter their environment and their ways of life through cultural mechanisms, they create at the same time new conditions providing a selective advantage for certain biological characteristics of human beings' (1968b: 55), or as he succinctly put it in 1965, 'While it is obvious that man is a

product of his social and cultural history, it is equally certain, on the other hand, that everything he does is conditioned by his biological attributes' (1965b: 4).

As humans exhibit so little biological specialization, Dubos describes them as the 'great amateurs' of the living world. By virtue of their 'adaptability' humans have of course been able to establish themselves in many different kinds of habitat, even adverse environments ill-suited to their longterm well-being. Like Mumford, Dubos therefore emphasizes the limitations of defining humans as the 'tool-making animal', as Benjamin Franklin had described the human species, for tool-making is a trait possessed by other species of animals, as well as by several birds. What is crucial to humans is not their tool-making and sociality, but their ability to construct and utilize *symbols*, giving rise to both language and to cultural systems. Certain kinds of thinking, relating to social organization, morality, art and science, would hardly be possible, Dubos stresses, without some form of symbolic language. However, Dubos also suggests that the uniqueness of the human species involves a *combination* of characteristics many of which are found in other animal species, if only in embryonic form. He notes the following:

a superior degree of variability, erect posture, manipulative hands, an elaborate cerebral cortex, a prolonged period of immaturity and educability, skill in the use and invention of tools, symbolic speech and other communication systems, and the ability for conceptual thought and for art.

(1968b: 68)

Following the anthropologist Clyde Kluckhohn, Dubos suggests that cultural patterns constitute 'designs for human living', and cannot be considered as external manifestations of human nature. He thus continually emphasizes that human biological and cultural characteristics cannot be considered as constituting completely separate domains (1968b: 69). He was certainly sceptical of the notion that cultural life constitutes an autonomous realm radically independent of human biology, as in Dilthey's notion of an 'objective mind' or Popper's postulate of a 'world three' – a world consisting of the 'objective contents of thought' (see Mahner 2001: 103–117 for Mario Bunge's critique of this theory). For like Bunge, Dubos held that there is only one world (or earth) with its own integrity – but one that is immensely varied, forever changing, and worthy of our respect and celebration.

Also emphasizing that human beings are fundamentally social mammals, Dubos notes that a 'sense of belonging' and togetherness usually engenders a feeling of security, which increases the chances of biological success as well as of human happiness (1965a: 9). He thus concludes that the biological theory of adaptation is inadequate for understanding human life, as it fails to acknowledge and encompass the 'richness' of human nature. In his wellknown essay on 'Humanistic Biology' (1965b), Dubos emphasizes that contemporary biology, with its emphasis on historical change and evolutionary processes has completely displaced in the 'Western mind' the 'myth of the eternal return' – a theory still seemingly embraced by Nietzschean empiricists like Gilles Deleuze (1994). Thus theoretical biology now pervades Western culture indirectly through the concept of historical change: the notion that living organisms cannot be understood except in the light of the past – evolutionary, social and experiential. Yet surprisingly, Dubos notes, the science of human biology has been little influenced by the historical outlook, and still retains a mechanistic perspective, tending to identify the 'science' of human nature with the 'physiochemical description of the body's structures and mechanisms' (1965b: 5). Thus a rather reductive and mechanistic approach to human nature and to the human personality still has its adherents, and has recently been embraced by many sociobiologists who reduce the human person to a 'meme machine', a receptacle for the propagation of 'selfish genes' (Dawkins 1976: 4–7; Blackmore 1999), as well as by some poststructuralist philosophers whose ultra-nominalism tends them to see the human personality as a 'fiction' and the person as little more than an ad hoc 'assemblage' of 'desiring machines' (Deleuze and Guattari 1988). Dubos, however, emphasizes that terms like 'mind' and 'emotion', vague though they may be, denote the activities of an 'integrated organism', responding as a 'whole' to external or internal stimuli.

The almost irrelevance of much present-day human biology, Dubos suggests, with regard to the humanities, stems from the fact that it emphasizes the 'mechanical aspects' of human nature, rather than human experience, both personal and cultural; it is more concerned with 'his being than his responding and becoming' (1965b: 5–6). Dubos therefore calls for a humanistic biology that deals not only with the raw materials and mechanisms of human nature, but also with the way in which each individual human being, in responding to environmental forces, creates a unique personality from the biological attributes which are shared by all humans (1965b: 18–19; for contemporary interpretations of biology that follow Dubos in countering the ultra-Darwinism of the sociobiologists, see Goodwin 1994; Rose 1997).

Sociocultural Evolution and the Human Personality

For much of their existence humans have been foragers or hunter-gatherers, and until some 6,000 years ago most of the world's population were still non-agricultural. Industrial technology and agriculture are therefore comparatively recent phenomena. Having originated on the African savanna, Dubos argues that much of the psychological needs, tastes and habits of modern humans have their origin in the fact that the 'biological cradle' of *Homo sapiens* was on the East African plateau, in a sub-tropical climate with alternating wet and dry seasons (1973a: 44). Early humans, exemplified by the Cro-Magnon people who lived in south-western France some 20,000 years ago, and who are well-known for their rock paintings and engravings, thus lived not in dense forests but in open country with diverse habitats. Given this background, humans, Dubos argues, have a certain proclivity for open landscapes. As he writes: 'Many themes of mythology and of classical art unfold in pastoral landscapes and under climatic conditions which are pleasant to us, probably because they resemble the savanna-like country in which *Homo sapiens* completed his biological evolution' (1973a: 45).

Visions of Eden or Arcadia, or the creation of parks and gardens, invariably invoke or symbolize, Dubos contends, a semi-tropical, savannalike environment. Humans therefore have a decided preference, given their evolution, for certain types of landscape and climate (Dubos 1981: 22). Recent research on landscape preferences strongly indicates that savanna-like environments are consistently liked better than other kinds of environment; this has suggested to some scholars that humans have an 'innate disposition' for the savanna landscape (Orians and Heerwagen 1992: 558; cf. the critical reflections of Steven Rose 2005: 104 on this thesis).

Equally important, anthropological research has indicated that early human communities, as well as tribal societies more generally, tended to live in small local communities or clans of around fifty people, which together constituted a tribal or dialectical grouping of around 500 persons. These 'mystic' numbers or social groupings, Dubos contends, are still reflected in contemporary societies with respect to those groupings which have a personal basis or immediate social

significance – in spite of mass communications such as radio, telephone and television (1973a: 46). Even social conflicts and the present-day obsession with ritualized hunting are conditioned, Dubos suggest, by human activities in the ‘distant past’. There is, however, no ‘instinct’ driving humans to commit aggressive acts, for Dubos suggests that people act violently ‘because they have been taught to do so, or made to do so’, and following Peter Kropotkin, he emphasizes the importance of ‘mutual aid’ in all human societies (1973a: 47).

Like Mumford, Dubos emphasizes that humans are influenced not only by the forces of nature, but are equally, if not more, influenced by their social and cultural surroundings. For the human tendency to symbolize can be traced back to the Palaeolithic era, and such patterned symbols, reflected for example in religious concepts, constitute what Dubos describes as the ‘conceptual environment’ of human beings. But Dubos emphasizes that the total human ‘environment’ is both complex and multifaceted. Commonly the term ‘environment’ is employed specifically to describe an organism’s ‘perceptual environment’, Dubos noting that this differs not only from species to species, but also between individual organisms. Each living being, as it were, inhabits a ‘perceptual world of its own’. This perception relates to the impact of the physical world on the organism, a relationship involving the main sense organs. Yet the physical world impacts on the organism in other more subtle, elusive and complex ways – through, for example, the biological rhythms that are geared to the daily, lunar and seasonal cycles – and there is evidence to suggest that humans are sensitive to radio waves and magnetic fields, as well as being affected by changes in the weather (1973a: 53–54). Noting that all aspects of human behaviour are affected by physiological processes, Dubos was particularly struck by the extraordinary degree to which these processes are still linked to cosmic rhythms, for a person’s hormonal activities, in particular, exhibit marked diurnal and seasonal rhythms (1965b: 11–12, 1968a: 62).

Each human being also lives in a ‘conceptual world’ – the cultural ideas of a particular society – although Dubos emphasizes that the perceptual and conceptual environments of humans are both ‘highly’ personal. More important, the conceptual environment acts as a ‘mediator’ in all aspects of the relationship between the human person and the rest of living nature (1973a: 54–55).

Dubos makes two important points: the first is that the total environment – perceptual and conceptual – plays a crucial role in the early development of the human personality; the second is that human beings do not react passively to the

environment, but have creative agency, and exercise free will and choice. There is, Dubos affirms, a certain paradox inherent in the human condition. On the one hand, all members of the human species share certain fundamental bodily structures, physiological needs and psychological attributes, and express emotions and certain moral values that are common to humanity, and are universally recognized. We thus acknowledge the unity and universality of humankind. On the other hand, no two human beings are alike, for each person is a unique personality, and each cherishes their own individuality – something emphasized by existential philosophers and scholars such as the Spanish poet Miguel de Unamuno. There is then a dialectic between permanency and change – which as the Greek philosopher Heraclitus had emphasized, is intrinsic to the world. As Dubos writes: ‘Everyone is today and will be tomorrow only a slightly modified expression of what he was yesterday or at any time in the past. In the midst of change, we exhibit a sameness and continuity which other people recognize’ (1973a: 57). But although science implies determinism, and human beings are constantly influenced or ‘shaped’ by biological, environmental and cultural factors, nevertheless human beings have free will and agency, and throughout life always retain a sense of freedom in the selection of activities, associations and surroundings. Human beings thus have creative agency, and are never simply the passive products of either genetic or environmental forces (1973a: 57–58). ‘Individuality’ is thus a question of ‘becoming’ rather than ‘being’, and the human personality is, in part at least, the creation of the individual. The human person therefore has a certain degree of independence from their evolutionary past, and from the culture in which they are born and live.

Human beings are thus, par excellence, creatures who can express creative agency and personal choice. As both biological and social forces also play an important role in shaping the characteristics of human beings, there is thus a sense in which environmental influences and deliberate choices play a complementary role in human life (1973a: 61). Quoting from existentialist philosophers like Jose´ Ortega y Gasset and Friedrich Nietzsche, Dubos emphasizes that the urge to create and affirm one’s own personality seems to be ‘one of the strongest human imperatives’. But he also acknowledges that the affirmation of the human personality is not possible without social constraints, even less outside of nature (1973a: 64–65). Nevertheless, Dubos is critical of most American schools, which, he suggests, are more concerned with social conditioning than the development of the individual person (1973a: 74).

The human person, Dubos continually emphasizes, is a 'social animal', since humans engage with other humans at every stage of their life. This dependence not only relates to their bodily, emotional and psychological needs, but also to the cultural attributes that determine the characteristics of a particular society. Members of a given social group are linked together in 'complex systems' for the collection, storage, processing and retrieval of an immense variety of information that constitutes the collective property or culture of a particular social group. The linkage of human persons into social systems, Dubos argues, goes back to earliest times, and is more important than biological properties in differentiating humans from other animals. Like Mumford, Dubos recognized that the difference between humans and other animal species was not radical nor clear-cut, and that human 'superiority' over animals was relative rather than absolute. He cites, for example, the social habits and the importance of learning cultural traits among crows, blue tits and primates (1973a: 166).

Given the crucial importance of social life and cultural symbols – the 'conceptual environment' – humans have the ability to transform their lives through social evolution. But Dubos considered the cultural developments during the Neolithic and Bronze Age periods, with the rise of early civilizations in the Near East and Asia – the development of pottery and weaving, the use of metal, the domestication of plants and animals, the invention of writing, the control of irrigation water in the river valleys – as constituting not so much an evolution as a social 'revolution' in human life (1973a: 165). Yet he also emphasizes that particular human personalities – such as Lao Tzu, Buddha, Jesus and Mohammad – also play an important role in initiating social change, often rejecting certain social and religious orthodoxies of their time (1973a: 167).

Writing at a time when systems theory was very much in vogue, Dubos devotes some discussion to the concept of 'homeostasis'. In the nineteenth century, the French biologist Claude Bernard had laid the foundations for the modern theory of physiological adaptation by suggesting that the fluids and cells of the bodies of the higher animals, including humans, tend to remain in essentially a constant state, despite changes and disturbances in their external environment. This constancy of the 'internal environment', Bernard suggested, was the condition for the 'free and independent life' of the organism. Thus all organisms, and especially humans, have some degree of independence from the vagaries of nature (Bernard 1927: viii; Dubos 1973a: 170). This idea was further developed by the American physiologist Walter Cannon, who in his well-known book *The Wisdom of the Body* (1939), coined the term 'homeostasis' to describe the fact

that under normal conditions the organism has the capacity to maintain a state of physiological equilibrium, by constantly compensating for the disturbing effects of external forces. A colleague of Cannon at Harvard University, the sociologist Talcott Parsons, essentially applied this theory to social systems, and is thus seen as one of the founders of the school of sociological functionalism. According to this theory, embraced also by Herbert Spencer and RadcliffeBrown, a society is akin to an organism, and constitutes a system in equilibrium, each society being characterized by a shared culture or value system (1973a: 171). Although stability and negative feedback are aspects of biological and social systems, Dubos is highly critical of the concept of homeostasis, pointing out that Cannon's book makes no mention of disease, and that the wisdom of the body is often a 'short-sighted wisdom' (1968a: 111, 1973a: 172). Reiterating the many criticisms of sociological functionalism, in that it neglects the realities and potentialities of social change, Dubos suggests that living systems are characterized not by homeostasis, but rather by *homeokinesis*. He thus concludes: 'The concept of homeostasis in sociology and economics, like the concept of climax in ecology, is a postulate which hardly ever fits reality' (1973a: 173).

Nevertheless, Dubos affirms that the distinction between the organism (internal) and its environment (external) is one of the primary characteristics of all living organisms, and this, of course, leads to the development of the distinction – not dichotomy – between the self and non-self (Rose 2005: 14). The concept of the 'no self' or the idea of the self as a 'fiction', as embraced by Buddhists, radical empiricists and poststructuralist philosophers, hardly accords with biology, let alone with human experience. Dubos always stressed the importance of the organism, of the human *being*, and of the human personality (see also Tallis 2011: 270–274).

Although humans are as much influenced by natural forces as are other living organisms, Dubos emphasizes that they are distinctive not so much by their biological endowments as by the use to which these are put. Being both reflective and interpretive, humans can embody their experiences in the form of cultural systems, and thus produce various modes of thought – art, science, morality, religious and legal systems. Thus humankind is essentially defined by its collective achievements: the diversity of human cultures, and to *be human*, Dubos concludes, is to *be creative* (1973a: 173–174).

In his well known study *So Human An Animal* (1968a), for which Dubos was

awarded the Pulitzer Prize, he gives a very readable account of what he describes as ‘human nature’, suggesting that the human species is best characterized not by its biological attributes but rather by its ‘social history’ (1968a: 37). To conclude this chapter it might therefore be useful to outline some of the main themes of this book, many of which I have alluded to earlier in this discussion.

From ancient times, Dubos writes, early written documents suggest that human communities articulated, if only implicitly, the notion of ‘humanity’ or ‘human-ness’ as a cultural or ethical category. In the Sumerian language, for example, the term *Namlulu* not only signified the notion of human beings in a generic sense, but was also associated with ethical ideas relating to the proper conduct of the human person (1968a: 160; see also Speiser 1966: 150). Hence among tribal communities, or even among human communities of the late Palaeolithic period – around 100,000 years ago – people have always expressed their ‘humanity’ by the use of fire, through their burial rites, which suggested some form of ultimate concern, and by the development of language, ethical systems and the diversity of human cultures. Gotama the Buddha, of course, explicitly advocated the concept of humanity and ‘human-ness’ as an ethical category, in his vision of enlightenment, and which embraced a compassion for all sentient beings (Rahula 1959: 6).

Hence Dubos makes a distinction between human ‘*civilization*’, which relates to the values and social attributes that are shared by all human beings irrespective of origin, race, religion and ethnic background; and ‘*culture*’ which refers to the values, ideas and beliefs characteristic of a particular local group. Dubos thus continually emphasizes that universality and diversity are two ‘complementary aspects’ of human nature (1968a: 41) – something quite lost on postmodernist scholars (like Rorty and Lyotard) with their overemphasis on cultural relativism. Even more bizarre is the tendency of many postmodernists to *equate* universalism – the concept of a common humanity – with religious fundamentalism and fascism. Hitler’s politics, it is worth noting, as expressed in *Mein Kampf*, repudiated entirely the Enlightenment tradition and its emphasis on universal values, and embraced ‘difference’ with a vengeance in his stress on racial purity (Sim 2004: 50–51).

What is important to note is that Dubos places equal emphasis on diversity – both cultural and environmental – *and* on universalism. Diversity, he felt, was preferable to both efficiency and convenience, for without diversity freedom is but an empty word. Human beings are not really free, and cannot be fully

creative, he argues, if they do not have many options from which to choose. This is why he stresses the importance of creating diversified landscapes, as well as affirming cultural diversity. One of the reasons Dubos loved New York City was that it was *not* a ‘melting pot’ but a human mosaic, an expression of enormous cultural diversity (1981: 115–17). The social diversity of humankind is in fact, he argued, one of our most distinctive traits. On the other hand, universalism, the acknowledgment of a common humanity and universal values, is an equally important characteristic of humanity. As he puts it: ‘Even the most unfamiliar behaviour of human beings is meaningful to us for the seemingly obvious, but in reality mysterious, reason that there is a peculiarly characteristic human way of doing almost anything’ (1981: 5). An overemphasis on universals to the neglect of cultural differences (sociobiology), or an overemphasis on ‘difference’ to the neglect of the universal aspects of human life, as expressed in the concept of a common humanity (postmodernism) were, for Dubos, equally untenable positions.

With regard to the concept of ‘adaptation’, Dubos continually emphasizes that animals, especially humans, hardly ever react passively to their environment but respond to it selectively and creatively. The highly personal interplay between a particular organism and its environment constitutes what Dubos calls its ‘living experience’ and he stresses that what is ‘human’ regarding our species is precisely that which is not mechanical (1968a: 85). Equally important, the ‘past’, whether encoded in hereditary (genes), or in memory, plays a crucial role, Dubos suggests, in determining the manner in which humans experience the natural world. In fact, life is so profoundly influenced by the past – evolutionary, social and experiential – that Dubos argues that even a highly sophisticated physiochemical approach to human life is quite inadequate to capture the living experience of the human personality. What is then needed, he suggests, is an organic and ecological approach that is very different from the mechanistic one that continues to prevail in biology (1968a: 93).

All humans, Dubos writes, are ‘migrants from a common origin’, and through their sociocultural adaptations have made themselves at home in all parts of the world, in a variety of different habitats and climates (1968a: 106–107). Reiterating that humanity is still the ‘great amateur’ of the animal kingdom, he emphasizes that although humans are strictly ‘earthbound’ creatures – completely dependent on fresh water and the earth’s atmosphere – they have adapted themselves to a surprising range of conditions. But this tolerance and adaptability has a negative side, and has led humans to adapt

themselves to conditions that are biologically and psychologically undesirable – conditions that are certainly untenable in the long term. Dubos writes of the unpleasant consequences of air pollution, overcrowding, traffic congestion, and the noise and unpleasant odours experienced in many urban contexts. Many people in cities have thus become ‘maladjusted’, and oblivious to the ‘filth, visual confusion, dirt and outright ugliness’ that they daily encounter (1968a: 117). Yet Dubos also emphasizes that although humans seem to have an infinite capacity to adapt to varying environments, even those which are injurious to health and well-being, there are definite limits – biological and psychological – to human adaptability. What is then needed is the creation of an environment that best fosters human well-being, and thus implies the creation of as ‘diversified’ an environment as possible – one that is able to satisfy a variety of human needs: for peace and tranquillity, independence, intimacy, comfort, initiative and open space (1968a: 124). What must be avoided is a uniformity of surroundings, and an absolute conformity and regimentation of social practices and cultural experiences and tastes (1968a: 129).

Like Mumford, Dubos emphasizes that social institutions under industrial capitalism are not specifically designed to develop the ‘good life’ but rather to make human beings more productive and efficient cogs of industry and commerce. And with regard to the wider environment, Dubos writes: ‘Almost everywhere, the land is being used not as a home, not as an environment for the creation of human culture, but as a source of exploitation and speculation’ (1968a: 137). However, unlike Mumford, Dubos does not develop these thoughts into a sustained critique of the megamachine – industrial capitalism.

12

The Ecology of Health and Disease

As a microbiologist, and unlike most ecologists, Dubos emphasizes that microbiota have always been a significant part of the environment to which humans have, historically, had to adapt. The presence of disease has thus always co-existed with human life. And Dubos' *Man Adapting* (1965a) is a classic study which attempts to advance an ecological approach to issues relating to human health and disease. Here I offer a brief outline of Dubos' writings on the determinants of health and disease.

Health is often seen, in medical terms, as simply the absence of disease. But defining exactly what constitutes disease, Dubos suggests, is somewhat problematic. This is hinted at in the very structure of the term 'dis-ease'. It normally implies some serious organic or psychic ailment, such as tuberculosis or mental illness, but Dubos argues that what constitutes disease varies between individuals and social groups. As he puts it: 'the precise meanings of the words health and disease differ from one social group to another, or even from person to person' (1965a: 348).

In order to broaden the meaning of the term 'health' – it is derived from the Anglo-Saxon word meaning 'hale' or 'whole' – the World Health Organization (WHO) in 1946 defined health not simply as the absence of unpleasant symptoms, but as a *positive* attribute. The preamble of the WHO charter thus states that 'health is a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity' (see Dubos 1968b: 96). The notion of a state of positive health, Dubos suggests, is a utopian ideal, and something of a mirage because human beings must continually face the physical, biological and social forces of their environment, which are forever changing and over which they have only limited control. This ideal can never become a reality because humans will never be so perfectly adapted to their environment that their life will not involve struggles, failures and sufferings. The less pleasant reality, Dubos argues, is that in 'an ever-changing world each period and each type of civilization will continue to have its burden of diseases created by the unavoidable failures of adaptation to the new environment' (1965a: 346).

Taking a more prosaic view, Dubos therefore suggests that the words ‘health’ and ‘disease’ are only meaningful when defined in terms of a specific person functioning in a given physical and social environment. But aware that all aspects of human life are inter-related and sensitive to the fact that humans are social, thinking and ethical beings, he does not have a narrow biologicistic vision – one, ironically, often characteristic of the medical practitioners who propound utopian schemes. Rather he sees human adaptation as a constant dialectic between permanency and change, and argues that ‘fitness’ and ‘adaptation’ to the environment must not be interpreted in a narrow physical sense, but must be defined in terms of the ‘total environment’ in which a person spends his or her life. It demands that the human person must be able to express themselves creatively (1965a: xviii, 1968b: 123).

The nearest approach to health that we could realistically attain, Dubos concludes, is a physical and mental state fairly free from discomfort and pain, which permits the person concerned to function as effectively and as long as possible in the environment where chance or choice has placed them (1965a: 351).

An impressive and important study, Dubos’ *Man Adapting* is a crucial text for anyone interested in environmental issues or in comparative medical systems, for he was one of the first scholars to outline an ecological approach to medicine – an approach that has since been crystallized in the burgeoning movement of holistic medicine. Even so, Dubos may well have distanced himself from some of the more esoteric aspects of the New Age healing cults. The book is of interest precisely because Dubos writes from within the camp of *orthodox* biomedicine, although unlike his medical colleagues, he was something of a Renaissance figure. His text therefore is scholarly, readable and relatively free of academic jargon. I will in summary fashion outline some of the major themes.

Although not succumbing to the myth of the Noble Savage, Dubos nevertheless emphasizes the fact that tribal communities had achieved a certain equilibrium with the natural world, and had developed a level of immunity against the microbial agents of disease prevalent in their communities. So although disease has been co-existent with human life, tribal people generally, as well as prehistoric humans, had attained a high level of health. Thus a good deal of physical and mental well-being is possible, Dubos concludes, without nutritional abundance or physical comfort. Even though few tribal people lived beyond the age of fifty, some undoubtedly had greater longevity, leading Dubos to suggest

that the potential duration of human existence greatly exceeds the biblical three score years and ten (1965a: 228, 1968b: 99–102).

What essentially causes a marked increase in the incident of disease are environmental disturbances and social upheavals – illustrated by the devastating impact of European contact and colonialism upon tribal people throughout the world, and the Industrial Revolution in Western Europe which led to a serious decline in the health of the labouring classes. Equally significant, of course, were the devastations caused by war (1968b: 102–103).

Understanding health and disease in terms of environmental factors and life-situations was first explored by the Greek physician Hippocrates, who initiated what was essentially a naturalistic approach to medicine. In ancient Greek culture the healing arts were associated with the God Asclepius who is often depicted in the iconography accompanied by his two daughters – the Goddesses Panakeia (cure-all) and Hygeia (health or hygiene). These deities symbolize, Dubos suggests, two approaches to medicine that still have contemporary relevance. Panakeia was a purely healing Goddess, who specialized in the use of drugs, and who articulated the belief that ailments and disease could be cured by the skilful use of medicinal substances derived from plants and from the earth. The illusion that pharmaceutical drugs can solve all medical problems survives today, Dubos argues, in our use of the word ‘panacea’.

In contrast Hygeia was one of the manifestations of Athena, the Goddess of reason. It was this deity who taught the Greeks that they could remain in good health if they followed the dictates of reason, and lived a life of moderation. She was, writes Dubos, concerned not so much with the treatment of disease as with ‘its prevention and with the maintenance of health’ (1965a: 321, 1968b: 79).

Hygeia and Panakeia symbolize, Dubos argues, two radically different yet complementary approaches to the control of disease, the one emphasizing prevention, the other, treatment. Both approaches were incorporated in the philosophy of Hippocratic medicine. Although a physician by the name of Hippocrates did in fact exist and practise medicine on the island of Cos, the Hippocratic corpus consists of a varied collection of different medical traditions and practices clearly written by different authors and at different times. But the fundamental philosophy of Hippocratic medicine suggests that disease should be understood as a *natural* phenomena, rather than in terms of spirit possession. Dubos summarizes the Hippocratic tradition as follows:

* Disease is not caused by malevolent spirits or capricious deities but rather by natural forces and is explicable in terms of natural laws.

* The well-being of humans is influenced by all environmental factors – including the climate and topography of the land, air, water and food, and general living habits. The Hippocratic writings on *Airs, Waters and Places* constitute, Dubos writes, the oldest systematic account of the effects of the environment on human health and personality (1965a: 36).

* An understanding of the effects of these environmental factors on human well-being is the fundamental basis of the physician's art.

* Health is the expression of harmony or balance between the natural environment, the ways of life, and the various components of human nature. For the early Greeks, and the Roman physician Galen, health embodied a balance between four bodily humours: blood, phlegm, yellow bile and black bile.

* Whenever the equilibrium is disturbed health can be restored through rational therapeutic procedures – the use of drugs, various regimens, and surgical techniques.

* Mind and body being interdependent, health entails a 'healthy mind in a healthy body' and living according to natural laws, ensuring a balance between the organism and the forces of the environment.

* Medicine is an ethical vocation and implies an attitude of reverence for the human condition.

Such were the main tenets of the Hippocratic tradition as itemized by Dubos (1965a: 322–323, 1968b: 82–83).

Following Whitehead's remarks on the influence of Plato on Western philosophy, Dubos suggests that modern medicine is largely a series of elaborations and commentaries on the Hippocratic writings. This leads him to suggest that the Cartesian mind/body dualism, though it provided favourable conditions for the development of biomedicine and has had an important influence on Western culture, is fundamentally flawed and untenable. It has led both medicine and philosophy into a 'blind alley' (1968b: 87). Given the present state of knowledge, Dubos suggests that the mind and the body constantly interact, and constitute an integral whole. As all natural phenomena are the outcome of complex inter-relationships, it follows that all human disease is the consequence of a complex interplay between mind, body and environment. The notion that some diseases have a psychosomatic origin is therefore misleading,

for whatever its precipitating cause, almost every disease involves both the body and the mind, and these two aspects are so inter-related that they cannot be clearly separated (1968b: 88–92).

The Cartesian reductionist approach, exemplified for example by Ivan Pavlov and behaviourist theories, although it has been successful with regard to some limited problems, has also led, Dubos argues, to the neglect of some of the most important and probably the most characteristic aspects of human life (1965a: 331–332). A reductionist, analytical approach to health and disease is therefore not so much wrong, but limiting and inadequate. An ecological approach is required, one which situates the human person in the context of the total environment – physical, social and cosmic.

Having written an important study of Louis Pasteur (1976), Dubos notes that there is no more spectacular phenomenon in the history of medicine than the speed with which the germ theory of disease was embraced by the medical profession. Thus the doctrine of specific causation came to have an important influence in the development of medicine at the end of the nineteenth century. But though exposure to some specific virus or bacteria may be a necessary condition for the development of some disease, it is usually not a sufficient condition. And even the characteristics of the disease may be determined more by the response of the organism as a whole than by the characteristics of the causative agent. Thus Dubos emphasizes that many factors are involved in disease causation, and that a multifactorial approach is therefore necessary: ‘The concept of multifactorial causation is in reality but an extension of the doctrine of specificity that brings scientific understanding a little nearer to the complexities of the real world’ (1965a: 330).

Scientific medicine and the germ theory of disease have been given the credit, Dubos suggests, for the decline of infectious diseases and for the marked improvement in the general health of Europeans and North Americans – especially towards the end of the nineteenth century. This assumption is in fact false, since improvements in health pre-date the medical discoveries of the late nineteenth century, and were largely due to improvements in nutrition and sanitation. As Dubos writes, mortality as a result of many infectious diseases began to recede in dramatic fashion in Western Europe and North America ‘long before the introduction of specific methods of therapy, indeed before the demonstration of the germ theory of disease’ (1965a: 365). Most of the credit for the improvement of the general health of the public can thus be credited to the

active role played by the boards of health and other municipal bodies of that period. The greatest contribution of medical science to the welfare of humankind has therefore been through prevention rather than through therapy and the cure of diseases (1965a: 364). Dubos therefore concludes that the complete eradication of microbial disease is a 'will-o'-the-wisp', and that therapeutic medicine will probably lead to diminishing returns. On the other hand, 'the effectiveness of the ecological approach to the control of disease has been demonstrated by centuries of useful empirical practices and is supported by modern biological science' (1965a: 381).

In the Yellow Emperor's *Classic of Internal Medicine*, published in China in the fourth century BC and cited by Dubos, it is suggested that the really good doctors are not those who treat sick people by means of therapy, but rather those who instruct the people on how not to get ill (1965a: 392). The merit of this ancient wisdom is affirmed and emphasized by Dubos throughout his text, for he stresses that the prevalence and severity of disease is conditioned by environmental factors, and by people's ways of life – rather than by medical interventions. Though not questioning the importance and therapeutic triumphs of biomedicine and surgery, Dubos nevertheless argues that the greatest contribution of medical science has been in the field of prevention rather than that of cure (1965a: 364). Humans can thus only function well, he concludes, if their external environment is in tune with the needs they have inherited from their evolutionary, social and experiential pasts, as well as with their aspirations for the future (1968b: 168).

13

The Theology of the Earth

During 1971 and 1972 Dubos wrote a column for *The American Scholar* under the title 'The Despairing Optimist'. Some of the material from this column was later incorporated into his popular book *A God Within* (1973a). It forms a companion volume to *So Human An Animal* (1968a).

In spite of its title *A God Within* is not a book about religion; not at least in its conventional sense, as implying a belief in spiritual beings or in some omniscient deity. It offers instead suggestions for an 'ecological worldview' – as a 'scientific theology of the earth' or a 'religion of nature'. For in an important sense Dubos looked upon a truly ecological approach to nature as having essentially religious 'overtones' (1973a: 37–38). The immediate focus of the book is on the idea that human landscapes have, like a person, a distinctive genius or individuality, derived from their topography, climate and social history. Early humanity, Dubos suggests, tended to posit a hidden reality beyond the phenomenal world of concrete experience, some immaterial force or entity that was generally regarded as a spirit or deity. This inner or hidden aspect of reality the ancient Greeks described by the term *entheos* – a 'God within'. Although apart from neo-pagans, Western people no longer conceive of deities as immanent in natural phenomena, nor do they interpret inspiration as having so divine an origin, nevertheless people still have an almost mystical faith in the idea that enthusiasm is the source of creativity (1973a: 11).

But Dubos goes on to suggest that many people still accept that a given city, region or landscape has a specific genius or spirit, thus acknowledging its uniqueness, derived from the 'hidden forces' within the location. The distinctiveness of a particular landscape or place is a result, Dubos suggests, of the interplay between their inherent characteristics and the external forces – social and historical – that have acted upon them. Even the concept of 'nature', though it has diverse connotations, nevertheless has as one of its key meanings the 'essential character or quality' of a person or thing (1973a: 13).

In a discussion of ivory carving, as practised among the Avilik Inuit, Dubos

notes how the carver rarely imposes a pattern upon the material, but rather subconsciously attempts to discover the inherent structural characteristics of a piece of ivory, and allows this to largely determine its eventual form – whether a seal, a walrus or a human figure:

The respectful attitude of Eskimo carvers towards ivory symbolizes an ideal for modern man's relation to the external world. Instead of imposing our will on nature for the sake of exploitation, we should attempt to discover the qualities in each particular place so as to foster their development. Human life should grow, not quantitatively through the conquest of nature, but qualitatively in co-operation with nature.

(1973a: 17)

Like Mumford, Dubos felt that although modern technology had given humanity immense powers over the cosmos, it was also depriving the human person of direct contact with the earth that was equally necessary for human survival: 'Because man is still of the earth, he too loses attributes essential to his survival when he allows the technological way of life to dissociate him completely from the natural environment' (1973a: 18). Given the ubiquity of ecological problems – nuclear weaponry, poverty and protein hunger, mass poisoning, shortages of raw materials, radiation and pollution – Dubos emphasizes the need, even the imperative, to consider the earth as a unity, as an integrated ecological system. For many ecological problems are of a global nature. In fact, he suggests that the 'striving for unity' is one of the fundamental urges of humankind and appears to have deep biological roots. For not only are symbiotic relationships ubiquitous in nature, but all living things are probably derived from the same kind of 'primordial protoplasm' (1973a: 28). For life, as it now exists on earth, including humans and the simplest bacteria, seems to have derived from a single origin, over 3,500 million years ago (Mayr 2002: 40).

Yet Dubos places an equal emphasis on diversity, and suggests that like individual human beings, countries, regions and cities, as well as human cultures, have a distinctive and lasting 'personality', a certain uniqueness derived in large part from the set of conditions under which they have historically emerged. Equally, then, there are forces for 'differentiation' at work everywhere on earth – giving rise to a diversity of organic forms and a variety of human cultures. This diversity enriches human life, and facilitates the emergence of new cultures and new values. Unity and diversity are thus both intrinsic to human

life, and Dubos concludes:

Our planet owes its exciting diversity to the fact that each person and each place exhibit uniqueness of characteristics and of fate. There are unquestionably universal laws applicable to all forms of matter and of life, but there are also forces which cause each individual person and each individual place to become a unique expression of these laws.

(1973a: 28)

The term ‘a God within’ symbolized for Dubos the individuality and uniqueness of the human personality as well as of cultural landscapes – the ‘spirit of place’. In ways similar to James Lovelock and Lynn Margulis, Dubos emphasizes that the earth is a ‘living organism’. These two scholars, writing at the same time as Dubos, put forward the theory, termed the ‘Gaia hypothesis’, which suggests that the biosphere is a self-regulating entity with the capacity of keeping the temperature and atmospheric composition of the earth in a stable condition. The earth, then, is not to be conceived as some deity (Lovelock 1979: xii; Margulis 1998: 115–123).

Thus Dubos emphasizes that the oxygen we now breathe is the product of life, having been initially released into the atmosphere in its free form by primitive organisms more than 2 billion years ago. Microbes and plants are therefore absolutely necessary for the existence of animals and humans, not only because they produce food but also because ‘they literally create a breathable atmosphere’ (1973a: 32). As Dubos succinctly put it: ‘Life has created the present soils and atmosphere of the earth out of the original rocks and gases of the initially lifeless planet’ (1980: 146).

Evidence suggests that the Earth, with its green and blue mantle, and its myriad forms of life, is unique in the solar system, and being a ‘living organism’ is more varied, changeable and unpredictable than simply nonliving matter. Emphasizing too that the soil is a truly living organism, Dubos suggests that microbial forms of life are the ‘indispensable links’ in the chain that binds life to inanimate matter, and that the ongoing cycle between life and dead matter is a physical manifestation of the ancient myth of the ‘eternal return’ (1973a: 33). In practice, then, humans do not live *on* the planet earth but rather ‘*with* the life it harbours and *within* the environment that life creates’. The interplay between a particular species of organism, including humans, and its total environment is thus always one of ‘reciprocal effects’ (1973a: 32–34).

Although the surroundings and ways of life of humans have changed profoundly since Palaeolithic times, given the development of complex technologies and urban landscapes, Dubos nevertheless continually emphasizes that the biological nature of humans has remained, over the millennia, fairly constant. Thus humanity is still *of the Earth* – ‘earthly’, and human nature is shaped biologically and mentally by external nature (1973a: 35). Even the term ‘nature’ for humans usually has biological connotations. Humans constantly seek contact with other living things, probably because their own species has evolved in constant association with them, particularly the larger mammals, and thus humans have a ‘biological need for this association’ (1973a: 30). The sociobiologist Edward Wilson was later to suggest that humans have an innate emotional need to express an ‘affiliation’ with other living organisms, which he terms ‘biophilia’ (1993: 31).

We are born, Dubos suggests, with the ‘gift of wonder’ and all ancient civilizations, as with Aristotle, have expressed, each in their own way, a ‘wonderment at the beauty of the Earth’. Nevertheless, Dubos regrets that Western civilization, given its emphasis on technology, has progressively lost this concern for the ‘beauty of the earth’. Drawing on the work of the biologist and humanist Julian Huxley, and his concept of psychosocial evolution, Dubos suggests that there are two different but complementary attitudes towards the Earth. One involves incorporating aspects of the universe – the macrocosm – into humanity’s own being, engendering and providing a scientific basis for the feeling of ‘reverence towards the Earth’. The other involves human actions *on* the world, and their attempts to control or ‘master’ the earth. This second attitude, implying the ‘conquest of nature’ has, Dubos contends, become almost universal within Western culture over the past two centuries. It ‘reflects the illusion that all natural forces can be entirely controlled, and it expresses a criminal conceit that nature is to be considered primarily as a source of raw materials and energy for human purposes’ (1973a: 36). This view of humanity’s relationship with nature is destructive and philosophically untenable and can only result, Dubos argues, in environmental degradation and the devaluation of human life. Hence the need to develop a ‘scientific theology of the earth’. This combines an ethical attitude towards nature with the science of ecology, and is thus a form of ‘enlightened anthropocentrism’. This does not imply the crude belief that humanity is the only value, such that the rest of nature can be ‘thoughtlessly sacrificed to his welfare and whims’. The earth and humanity Dubos thus considers as two complementary components of a system ‘which might be called cybernetic, since each shapes the other in a continuous act of

creation' (1973a: 39).

Dubos was later to make a contrast between the Promethean and Faustian attitudes to nature, the Promethean being identified with enlightened anthropocentrism and an active stewardship towards nature, the Faustian with an ethic of domination.

The Human Impact on Nature

Human history is, of course, replete with ecological disasters, and although warfare, civil strife, famine and disease certainly contributed to the demise of ancient civilizations, ecological factors were also important. Deforestation and the depletion of the soil, and the general degradation of the environment, undoubtedly led to the 'societal collapse' of many early civilizations. Even so, climatic changes may also have been important, and it is doubtful whether the collapse of any civilization can be attributed solely to environmental damage. Nevertheless, Dubos concludes that 'unwise management of nature or of technology can destroy civilization in any climate or land, under any political system' (1973a: 111). He cites George Perkins Marsh's classic study *Man and Nature* (1864) for evidence that ecological degradation is a crucial factor in the deterioration of agriculture and urban life (on the 'collapse' of societies and civilizations see Diamond 2005).

Yet Dubos is equally keen to emphasize that for many centuries humans have maintained viable landscapes and agricultural systems. Japanese agriculture, for example, has remained highly productive for over 1,000 years without decreasing the soil fertility, while in many parts of Western Europe, areas opened up during the Neolithic period still remain viable landscapes, fertile and productive even today (1973a: 111).

Writing at a time when there was a growing 'ecological consciousness' emerging in the United States, Dubos offers reflections on two scholars who have had an important influence on environmental thought: Aldo Leopold and Lynne White Jr. A professional forester who was an early disciple of Gifford Pinchot, and one of the founders of the Wilderness Society, Leopold is described by Dubos as one of the most articulate advocates of the new ecology movement. Also a keen hunter, Leopold in his *A Sand County Almanac* (1949) preached a 'land ethic', emphasizing the integrity of natural ecosystems. Dubos describes the book as the 'Holy Writ' of the American conservation movement as it emerged during the

1960s, and it was one that had great appeal to academic philosophers (Flader 1974; Callicott 1989, 1994).

The academic historian Lynn White Jr is best known for a well-publicized article published in *Science* on 'The Historical Roots of our Ecologic Crisis' (1967) – an article that has generated a plethora of critical discussion and has, Dubos writes, become an 'article of faith' for many ecologists, conservationists and theologians. White's basic thesis suggests that ancient Oriental and Greco-Roman religions had an immanent conception of deity, and took it for granted that trees, rivers, hills, animals and other natural phenomena had spiritual significance, and were therefore treated with respect. With the advent of Judaeo-Christianity, however, humans were set apart from nature, and the deity conceived as an anthropomorphic being, essentially distinct from his creation. An exclusive emphasis was placed on human beings, seen as in the image of God, and humans are given dominion over nature. As expressed in Genesis:

Then God said 'Let us make man in our image and likeness; and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth . . .' And God blessed them, and God said unto them, 'Be fruitful, and multiply, and replenish the earth, and subdue it . . . and have dominion over every living thing that moveth upon the earth.'

(1: 26–28)

Having been given dominion over the earth, this provided humans with a rationale for a policy of exploitation of nature, regardless of the consequences. According to White, modern technology, to a large extent, is an expression of the Judaeo-Christian belief that humans have a rightful dominion over nature, and Christianity, in its Western form at least, White describes as the most anthropocentric religion that the world has ever seen. As the roots of the ecological crisis are largely of a religious nature, its remedy, for White, must also be religious, and he suggests that he personally doubted whether ecological problems could be solved by applying 'more science and more technology'. The only solution was a return to the Christian mysticism of St Francis of Assisi, whom White describes as the 'greatest spiritual' revolutionary in Western history. He thus proclaimed St Francis as a 'patron saint for ecologists' and as the only answer to the orthodox Christian arrogance towards nature (White 1973: 29–30).

White's essay was a seminal and severe indictment of the Christian religion, interpreted as the prime agent responsible for the environmental crisis. Scholars since then have not only defended the Christian tradition, emphasizing the importance of Christian stewardship, but have also been critical of White's general thesis, in that it gives undue primacy to 'ideas' in the explanation of historical events. For other social factors, such as technological change, urbanization and economic forces – especially industrial production under capitalism – have, it is argued, played a far more decisive role in environmental degradation than religious ideas (Hay 2002: 103).

Despite expressing his admiration for Lynn White's scholarship, Dubos suggests that his thesis is at best a historical 'half-truth' and he is extremely sceptical of the notion that the Judaeo-Christian tradition had, in itself, brought about the desecration of the earth. Throughout history humanity had thoughtlessly intervened in nature, often with disastrous consequences. Historical accounts of ancient Greek, Chinese and Muslim civilizations show that these early civilizations had caused more than their fair share of soil erosion, deforestation and other forms of environmental damage. Many passages in T'ang and Sung poetry, for example, indicate that the barren hillsides of central and northern China had once been heavily forested, and there is reason to suspect that, as elsewhere, the deforestation and soil erosion were due to uncontrolled fires and over-grazing. The Chinese attitude of respect towards nature, expressed in early Taoist literature, may have arisen as a direct response to the damage done to the landscape in early antiquity. Indeed Dubos suggests that although the classic nature poets of China write as if they had achieved union with the natural cosmos, in reality 'most of them were retired bureaucrats living on estates in which nature was carefully trimmed and managed by gardeners' (1973a: 114, 1980: 65–66). But even in the early Neolithic period, long before the Bible was written, human populations in various parts of the world had not only drastically altered the natural landscape, but had caused the dramatic extinction of several species of larger mammals as well as of flightless birds (1973a: 14; see Dorst 1970: 34–87).

All over the globe, and at all times in the past, Dubos concludes, humans have pillaged nature, or adversely disturbed the ecological 'equilibrium', sometimes out of ignorance, more often because they were concerned with immediate needs, and did not foresee the long-term consequences of their actions. If humans are more destructive at the present time, this is mainly due to their ever-expanding numbers, and the fact that they have at their command powerful

technological means of destruction. Thus the present ecological crisis, Dubos felt, has little to do with biblical doctrines regarding the alleged human domination of nature. In fact, in this context, Dubos makes two important points.

One is that nature is highly resilient, and even environments damaged by air pollution, pesticides and strip-mining have often recovered, and Dubos notes the northern landscapes made barren by the ice-sheets during the Pleistocene period soon developed after their retreat a new flora and fauna. Destruction often results in a different creation (1973a: 116). But following the important suggestions of the historical geographer Carl Sauer, who Mumford described as one of the most seminal minds of the twentieth century, Dubos expresses a certain scepticism towards the classical concept of ecological 'climax'. For the notion of climax assumes the end of change, or at least a static equilibrium, whereas in reality nature is always in a dynamic state, and a biological equilibrium is never reached 'because natural and human influences continuously alter the interplay between the various components of the ecosystem' (1973a: 117; see also Sauer 1969: 15).

The second point is that Dubos suggests that it was also within the Judaeo-Christian tradition that there developed a pervasive concern for land management and an 'ethic of nature'. He notes that the second chapter of Genesis specifically states that God had placed humans in the 'Garden of Eden' with the instruction to 'dress it and to keep it' (2: 15) – a statement which he felt had ecological implications. He thus acknowledges that within the Judaeo-Christian tradition there existed a concern for nature conservation, an ethic that was well expressed by Francis of Assisi. Francis treated all living things, as well as inanimate objects such as the sun, as if they were his brothers and sisters. Emphasizing his own spiritual powers to curb the predatory habits of the wolf, it is doubtful, however, whether St Francis can be considered a fully ecological thinker. Personifying natural phenomena, St Francis saw the created world as having been made for human benefit, not in a simple instrumental sense, but rather so that humans could look upon nature and thus come to know and praise God. He even told his sisters, the swallows, to keep quiet, and to listen to his sermons (see Sorrell 1988).

As a philosophical concept Dubos regarded the 'ethic of nature' as being manifested in many later traditions – in the late medieval notion of a 'Great Chain of Being'; in Albert Schweitzer's ethic of 'reverence for life'; in the poetic and semi-transcendental writings of Thoreau, Wordsworth and Walt Whitman; and in the evolutionary biology of Charles Darwin which provided a scientific

basis for the intuitive belief in the ‘universal brotherhood’ of all living things (1973a: 115).

Dubos thus tends to conflate the Christian mysticism of the Franciscan ‘worship of nature’ (a debatable concept) and the evolutionary naturalism that was expressed by Darwin and later twentieth-century secular humanists and naturalists. Making a strong plea for a conservation ethic, Dubos reiterates the view that the adage the ‘earth is our mother’ is not simply a sentimental platitude; rather it highlights the fact that human life is shaped and sustained by the Earth. For the characteristics of the environment in which we live and develop conditions human biological and mental being, as well as the quality of life. The conservation of nature is therefore justified, Dubos argues, on several grounds – economic, ecological, aesthetic and moral. The pollution of the rivers and atmosphere, for instance, creates grave economic problems, as well as being deleterious to human health. As the outcome of human interventions in natural ecosystems cannot be predicted with any certainty, it is necessary and prudent, he further argues, to adopt a conservation ethic. As the loss of wilderness areas tends to decrease biological diversity, it is increasingly important to preserve such areas. As Dubos writes: ‘Undisturbed native marshes, prairies, deserts and forests are at present the best assurance against the potential hazards inherent in the oversimplified ecosystems that are being created through monocultural systems in the domains of both agriculture and forestry’. The ‘cult of the wilderness’ expressed in efforts to save the giant redwoods or the Californian condor is, he feels, less of a luxury than a necessity for the preservation of mental health and the protection of humanized landscapes (1973a: 119).

Human beings, says Dubos, are never just ‘worshippers’ of nature. That is, they do not relate to the natural world only in terms of aesthetics, or passively interpret the world simply as a manifestation of the deity or as the abode of spirits. They also actively and pragmatically engage with the natural world, and achieve their ‘humanness’ (as Dubos describes it) by imposing form on natural events and natural landscapes (1973b: 47). As Dubos took great delight in activities such as gardening and landscaping, imposing his own sense of order upon natural processes, he felt that ecologists should select St Benedict, rather than St Francis, as a more appropriate symbol of the human condition.

Attitudes to Nature

When St Benedict established his monastery on Monte Cassino, in Italy, in the

sixth century, his primary concern, of course, was that monks should devote their lives to the service of God. But when he formulated the rules of conduct for the monastery, besides emphasizing the importance of prayer and poverty, he also advocated that the monks should engage in productive labour – in the fields and workshops. This not only made the monastery selfsufficient, but the monks achieved an intimate relationship with the world around them and engaged in building, architecture, various handicrafts, as well as cultivating the land for the provision of food, clothing and building materials – and in such a manner that the land retained its productivity despite intensive cultivation. The monks thus combined physical and intellectual labour, and were seemingly more inspired by the second chapter of the book of Genesis, which placed humans in the Garden of Eden not as masters but rather in the spirit of ‘stewardship’. It seemed to Dubos that the Benedict rule implied an ecological perspective more in tune with contemporary thought than the ‘worshipful attitude’ of St Francis.

It is of interest that whereas Mumford saw the Benedictine monks, given their emphasis on order and routine, as being the precursors of capitalism, Dubos saw them as exemplars of Christian ‘stewardship’ towards the natural world. He also felt that the Benedictine monks, besides seeing manual labour as an essential part of spiritual discipline, also practised a ‘democratic administrative system of home rule’ (1973a: 121) – though of course the administration of the monastery was theocratic rather than democratic, with the emphasis on authority and obedience. Equally important, the Christian monks played an vital role in the development of windmills and watermills as a source of power, and were instrumental in the manufacture of various goods – paper, leather, fabrics, beverages, as well as in reclaiming marshland for agricultural purposes (1973a: 122). As Mumford discussed, all this laid the foundation for the development of technology in Western Europe.

Although the contemplative and reverential attitude towards nature, as expressed by St Francis and the conservation movement (and by contemporary deep ecologists) is important and necessary, Dubos suggests that such ‘reverence’ for nature is a limited perspective. For humans have never been a mere passive witness of nature. They have always changed the environment by their very presence, and thus the only options open to humans in their dealings with nature are to be either destructive or constructive. And to be creative, humans must relate to nature with all the senses as well as with common sense, with the heart and emotions as well as with the intellect. A reverential attitude towards nature must therefore be complemented by a creative stewardship towards the earth.

For Dubos this did not imply a dismissal of technology nor a retreat from the JudaeoChristian tradition. It did imply both a reverence for nature, and a 'creative intervention' within nature. Both attitudes are complementary and equally important. Thus for Dubos the phrase 'theology of the Earth' denoted the 'scientific understanding of the sacred relationships that link mankind to all the physical and living attributes of the Earth' (1973a: 122–123, 1973b: 44–48).

Myths of the 'Golden Age' or 'Arcadia' are almost universal, and so ancient that they must have a basis in reality – or so Dubos reflects. Studies of hunter-gatherers have certainly shown that they did not (and do not) live a Hobbesian existence – a life that is nasty, brutish and short – but, like tribal societies more generally, in fact lead lives that are compatible with 'longevity, health and *joie de vivre*'. Thus the legend of a Golden Age may be a remembrance of times past, embellished by the poetic imagination, of a time when humans had achieved a certain biological 'fitness' to their environment (1973a: 179).

But equally important, and in contrast to the Arcadian way of life, is the human propensity to modify and transform the world, in order to make it a more congenial habitat. This second attitude is embodied in the Greek myth of Prometheus, the demiGod who stole fire from the God Zeus and gave it to humans. According to the myth, fire allowed humans to assert their superiority over the animal kingdom and enabled them to engage in metallurgy and make tools, to warm their dwellings, and to fire and shape the landscape. Thus emerged the industrial arts, and eventually early civilizations.

The Promethean attitude to the landscape which sought to re-create paradise by imposing order on a chaotic wilderness found particular expression in the medieval period when, as discussed above, Benedictine monks sought to improve the land, acting as partners of God. They thus, Dubos writes, used fire, windmills and watermills to modify and shape the landscape, making it more suitable for human habitation, and more pleasing to the human eye (1973a: 180).

There are therefore, according to Dubos, two basic attitudes to the landscape, an Arcadian way of life that symbolizes human adaptation to the natural world, and the Promethean way of life that seeks to bring forth its unexpressed potentialities through human labour and the human imagination. But throughout history humans have related to the landscape not only in a creative fashion, expressed by the myth of Prometheus, but also in a more aggressive, and ultimately in a more destructive, fashion. For humans have 'increasingly manifested cosmic

arrogance and a tendency to believe that [their] powers are limitless'. Dubos describes this attitude as Faustian, after the myth of Dr Faustus. It symbolizes human rootlessness and urge to achieve mastery, not only over other humans but over the natural world, irrespective of the consequences. This Faustian ethic, implying that nature is something to be conquered, was, Dubos suggests, clearly expressed by George P. Marsh, whom many have seen as a doyen of ecological thought. As Marsh wrote:

The life of man is a perpetual struggle with external nature. It is by rebellion against her commands and the final subjugation of her forces alone that man can achieve the nobler ends of his creation . . . wherever he fails to make himself her master, he can but be her slave.

(quoted in Dubos 1973a: 183)

Dubos notes that this extraordinary anti-ecological statement is hardly ever quoted by Marsh's ecological disciples.

The problem with this Faustian attitude, which entails the notion that nature is something to be conquered and subdued, is that it is having dire ecological consequences – not only leading to environmental degradation but also to a severe reduction in the quality of human life. Thus, like Lynn White, Dubos tended to view the ecological crisis as being largely the outcome or the effect of 'ideas', but the culprit was not the Judaeo-Christian tradition, nor even the Promethean ethic (which he equates with Christian stewardship) but rather the Faustian way of life. That the Faustian ethic, which identifies progress with the conquest of nature, may be intrinsically linked with the capitalist mode of production and bureaucratic forms of government, Dubos does not explore. But he describes in great detail the contemporary ecological crisis, and the dangers, limitations and dislocations of what he describes as technological civilization (see Chapter 15). He notes that while in earlier decades in the United States nobody seemed to question the viability and usefulness of building a superhighway, a gigantic airport, a pollution-creating factory or a nuclear power plant, such projects are now being challenged as people have become increasingly aware of their dire consequences – for the environment, for the quality of human life, and with regard to the health and well-being of future generations. Even so, such projects are still being planned and implemented, with little regard for their ecological impact. But writing some forty years ago, Dubos was essentially optimistic, applauding the counter-culture movement of the 1960s for expressing a higher form of rationality than that of the political

establishment, and for reaffirming important values which were being lost – such as a ‘direct experience of nature, intimacy, uniqueness, and even eccentricity’ (1973a: 189). Even North American ‘civilization’, which had been so wasteful and destructive of the earth’s resources, could, Dubos argued, now take a lead in emphasizing ‘stability instead of growth, recycling instead of waste, socially-oriented planning instead of development for profit’ (1973a: 190).

Alas! Global capitalism is still rampant, supported by the American state, and the ‘technological barbarism’ that Dubos feared is still being challenged by environmental activists. Dubos affirmed his own humanistic faith, ‘Trend is not destiny’, but his plea that industrial civilization ‘will have to be reformulated on the basis of human ecological principles’ is still an unfinished project.

Humanized Landscapes

Firmly believing that landscapes profoundly effect human development, Dubos suggests the following as expressing a biological truth: ‘The universality of mankind expresses itself in the rich diversity of persons and cultures because each member of the human species incarnates that genius of the place in which he develops’ (1973a: 81). Although this idea is difficult to express in scientific terms, Dubos quotes, by way of illustration, from a statement of an elderly Kung woman of the Kalahari. She suggested that although there are different kinds of people in the world – African, European and ‘Bushmen’ – each with different ways of life, they are all inside ‘the same’ (1973a: 82).

But while strongly emphasizing the importance of landscapes in influencing human life and human cultures, Dubos firmly rejects any form of environmental determinism. This viewpoint was particularly well expressed by Lawrence Durrell in his book *Spirit of Place* (1969). In embracing the theory that human beings are simply ‘expressions of their landscapes’ the novelist, Dubos suggests, presents a caricature of the environmentalist point of view. For the ‘spirit’ of a place is not only influenced by the physical landscape, but also by its natural history, and, more importantly, by its cultural history. His own upbringing as a typical French country boy in the Ile de France, Dubos suggests, is only meaningful if one takes into account the important sociocultural influences on the region – such as La Fontaine’s fables, Baudelaire’s poetry, Descartes’ rationalism and the Gothic cathedrals (1973a: 69).

But Dubos is equally critical of the genetic determinism expressed by the well-known biologist C.D. Darlington in his book *The Evolution of Man and Society* (1969). In this book Darlington presents a general interpretation of human history, which suggests that all important human characteristics and social behaviour, as well as historical events, are determined by heredity – as being the inescapable effects of the genetic peculiarities of the individual person or the social groups involved (1973a: 69). This theory was later championed, of course, by the sociobiologist Edward O. Wilson (1978).

Granting the importance of genetic factors (heredity) in influencing *all* aspects of human life, Dubos nevertheless emphasizes the equal importance of environmental conditions, sociocultural forces, historical accidents and personal factors in determining the outcome of historical events. As he noted, the difference between early pastoralists and agriculturists was probably due more to social than genetic factors (1973a: 70).

Acknowledging that deterministic theories of human life, whether those of geneticists who insist that genes direct everything we do or become, or environmentalists who emphasize that we are shaped and conditioned by our surroundings and by the events we experience, can both be supported by large bodies of fact, nevertheless Dubos felt that such theories were rather parochial. And they ignore the fact that humans, as well as other organisms, have some degree of freedom, and actively respond to their surroundings, often in a way that is both original and creative (1981: 71).

The combined influences of environmental and cultural factors have given rise to the existence of 'national cultures' which, when Dubos was writing, was an important topic of debate, especially among cultural anthropologists. However, the distinctive array of intellectual and behavioural traits that are usually associated – often stereotypically – with particular national cultures, is largely the outcome, Dubos insists, of historical circumstances and human experience. It is not derived simply from the land in which people live, nor does it imply that people of the same culture share some mystical quality derived from their blood relationships (1973a: 75).

Dubos was particularly interested in the culture of the country whose nationality he had in fact adopted – the United States. Emerson had written that 'the views of nature held by any people determine all their institutions' (1950: 548). This statement is also true, Dubos affirms, if reversed, for the ways of life of a particular community influence their attitude towards the natural world. And although early Europeans had conceived the 'New World' initially as a 'pastoral paradise', the dominant American attitude towards nature that developed during the colonization of North America was essentially, Dubos writes, a Faustian one:

Even now most Americans believe, as did their predecessors, that they must 'conquer' nature rather than adapt themselves to the natural environment; they tend to put their faith in machines and technological fixes rather than in the complexities of ecological systems and in the slow processes of nature.

(1973a: 79) This ‘conquering’ attitude towards nature, expressed by many North Americans, has no doubt contributed to the material prosperity and economic supremacy of the United States; but it has also been responsible for the degradation of the environment (1973a: 79). The counter-culture movement which emerged throughout the Western world during the 1960s, besides advocating universal values, was the expression of an attempt by many people, especially the younger generation, to disengage themselves from the more negative aspects of Western technological civilization (1973a: 81; see also Roszak 1970).

Surprising as it may seem to many people, accustomed to factories, skyscrapers and superhighways, more profound changes to the landscapes of the earth occurred, Dubos argues, several thousand years ago. For it was during the ‘Neolithic’ revolution and the early phases of civilization that much of the ‘wilderness’ was transformed into agricultural lands. The introduction of the plough, in particular, had a most profound and lasting influence on the earth’s landscape. Even in pre-agricultural times the use of fire by Native Americans had played an important role in replacing much of the original forest with the prairie. Wherever humans settled in the temperate zone, Dubos writes, they ‘converted the primeval forest into pastoral scenery’ (1973a: 83). Thus fire and livestock enabled humans to transform the forests of Western Europe, and to create ‘rich and beautiful farmlands’.

Yet much of the early impact of humans was destructive, and led to the degradation of the environment. Dubos cites the work of Plato who in *Critias* had described the negative effects of deforestation on the Greek landscape – a loss of fodder and the drying-up of the springs (Dubos 1980: 3). The well-known study of George Perkins Marsh, *Man and Nature* (1864) had explored in detail, Dubos writes, the vital impact that humans had made on the landscape, much of it destructive. There is convincing evidence, Dubos suggests, that most of the deserts of the near East and in Asia were caused by deforestation and over-grazing some 4,000 years ago. But unlike Marsh and the deep ecologists, Dubos argues that the human impact on the earth has not been wholly negative, and that humans have often been a positive influence, especially in the creation of diversified landscapes.

Much of the farmland and the landscape patterns established by the early Neolithic peoples of Europe are still visible in the landscape, in spite of the intensive activities of Europeans over the past two centuries (1973a: 85; see

Rackham 1986 on the history of the British countryside). Many monuments, such as those at Carnac and Stonehenge, places of worship and trading centres, all of which have their origins deep in the past, are therefore still to be seen, despite the political, religious and economic upheavals over the past centuries (1973a: 87). The social and cultural history of a nation is therefore reflected, Dubos concludes, not only in the cultural habits and social behaviour of its people, but also in its landscape (1973a: 93). He also notes that regionalism, given that it is rooted in both human history and physical nature, still continues to be an important factor in contemporary life. This in spite of the pressures towards cultural homogeneity and the centralization of power (1973a: 93). Dubos was writing, of course, before the advent of cultural globalization, or what Jan Pieterse (2004) has described as the 'global melange' of much contemporary culture.

Having grown up in the small villages of the Ile de France, north of Paris, the landscape that Dubos experienced was not that of a primeval forest or wilderness, but rather a cultivated, but varied landscape, of arable fields, flowered meadows, gentle forested hills and peaceful meandering rivers. As in most of Europe, little 'original wilderness' or 'primeval nature' remained (1973a: 99). For what Europeans had created over many centuries was a cultural landscape, a 'second nature'. Dubos quotes from the Roman philosopher Cicero who in *De Natura Deorum* (*The Nature of the Gods*) had written: 'We sow corn and plant trees, we fertilize the soil by irrigation. We dam rivers, to guide them where we will. One may say that we seek with our human hands to create a second nature within the natural world' (1973a: 102; see also Cicero 1972: 185).

Even the mountain slopes of the Alps and Pyrenees had to some extent become humanized by the activities of many generations of European peasants and their livestock. Writing of the wonderful or 'sublime harmony' that exists in many parts of Europe, with its orderly arrangement of farmlands, pastures and wooded areas, Dubos emphasizes that at its best the European landscape is a work of art, the 'creation of peasants, painters and poets' (1973a: 100).

When Europeans first encountered the North American continent, then a largely undisturbed landscape, its dense forests and high mountains had no appeal to them. It was described as a 'hideous and desolate wilderness', full of 'wilde beastes and wilde men' – the Native Americans. Seeking to escape from corruption, early settlers attempted to create a 'civilized pastoral way of life' (1973a: 100–101; see also Marx 1964). Although a 'cult of the wilderness' later

developed in the United States, associated especially with Daniel Boone, John Muir and Henry Thoreau, for most lovers of nature and the outdoors the term 'nature' evokes chiefly humanized landscapes – land modified by human intervention, whether for pleasure or profit. Even Thoreau, Dubos contends, built his log cabin at Walden Pond only a short distance from Concord, which he regularly visited (1973a: 101).

It was during the nineteenth century, under the influence of the Romantic poets and the painters of the Hudson River school, that an appreciation of the 'wilderness' for its own sake came to be developed. It then came to be seen as having important therapeutic and aesthetic value, and Dubos notes that sanatoria, for the treatment of mental illness and tuberculosis, were often located in areas remote from civilized life (1973a: 103). But Dubos emphasizes that the vast majority of the population tend to live in cultural landscapes, and that while it is important to preserve as much 'wilderness' as possible – such as the American Everglades or the giant redwood forests – it is also important to protect the aesthetic quality of urban environments and the countryside (1973a: 104).

Physical geography and descriptions of place and human historical events are always intermingled, for wherever there is human life, Dubos writes, 'it is impossible to dissociate nature from man'. The 'individuality' of any particular area of the earth is thus always determined by the dynamic relationships that exist between the land and the organic life that it harbours, especially humans. Apart from remote wilderness areas, Dubos argues, land can only be understood when considered in relation to human history (1973a: 104). Even the setting aside of certain areas of the earth as protected environments – whether as abodes of deities, or as hunting preserves for Assyrian kings or the European landed aristocracy, or as national parks, or wilderness areas – always necessarily involves value judgements which are purely human in character. Thus what we call 'nature' generally applies to landscapes that have been profoundly altered by human activities and purposes, and their aesthetic charm and interest derives from their human associations.

Not only Europe, but most of the earth's land surface has now been 'humanized' – at least in areas compatible with human life. In fact Dubos suggests that there is no longer any wilderness left, at least in its pristine sense. For no fence can shut out 'radiation clouds, air and water pollution, or noise from aircraft' (1973b: 48). Some two decades later the deep ecologist Bill McKibben (1990) was writing about the 'end of nature' – a nature untouched by humans – as if it was a

novel thesis, without ever mentioning Dubos.

In parts of the United States land that has been abandoned when its resources – timber, coal, minerals – have become exhausted, is often characterized by ghost towns, eroded hillsides and deserted camps, while an industrial form of agriculture is now dominant in the mid-Western states. Though such agriculture may be highly productive, its monoculture has tended to deplete the humus and impoverish the soil, and has created an environment that is lacking in diversity, and aesthetic or sensual quality (1973a: 105–106).

Given the focus on the ‘wilderness’ and the belief, stemming from Marsh, that human activities on earth are inherently destructive, the mood evoked by many environmentalists, such as Rachel Carson and Joseph Wood Krutch, seems, Dubos writes, to be either ‘nostalgic tears for what was’ or ‘disapproving frowns for what is’ (1973a: 107). In contrast, emphasizing the fact that humans have always modified nature to some degree, Dubos optimistically suggests that a ‘humanized nature’ is not necessarily detrimental to human welfare or organic life, and may have important positive qualities.

In the foreword to *Reason Awake* (1970: xvii) Dubos had written:

When man truly enters the age of science he will abandon his crude and destructive attempts to conquer nature. He will instead learn to insert himself into the environment in such a manner that his ways of life and technologies make him once more at harmony with nature.

Apart from the ‘sexiest language’ which Dubos shared with Mumford, Glacken and most of his contemporaries, Dubos was keen to emphasize that the term ‘harmony’ did not imply a static relationship between humans and nature, for humans had been controlling and modifying the natural environment throughout their long history (1973a: 107). However, the reason that humans often ‘desecrated’ the environment was not because they *use* it for their own purposes, but rather because they manipulate it without ‘respect for the spirit of place’. Again, Dubos stresses that this does not imply that the natural environment determines human behaviour in some mechanical way – rather, what it does ‘is to offer options among which human beings select according to their culture, their capacities and their personal tastes’ (1973a: 108). The genius or ‘spirit’ of place therefore symbolizes for Dubos ‘the living ecological relationship between a particular location and the persons who have derived from it and added to it the

various aspects of their humanness'. The 'spirit' of a place is therefore, for Dubos, made up of all the 'physical, biological, social and historical forces which, taken together, give uniqueness to each locality' (1973b: 53). It applies not only to specific locations, nations and regions, but also to urban settlements and cities. Like Mumford, Dubos is not hostile to city life, and writes: 'The great cities of the world contribute to the richness of the earth by giving it the wonderful diversity that [humans] add to the diversity of nature' (1973b: 53).

The two humanized landscapes that particularly appealed to Dubos, and which he felt expressed a creative symbiosis between the earth and humankind, were the 'Low Countries' of the Netherlands and Manhattan Island. One a horizontal country, a rich diversified farmland reclaimed from the sea; the other a vertical city – its environmental diversity being matched by a diverse medley of different cultural groups that live within New York City. Even so, Dubos recognized that the Manhattan skyline, though having a certain visual splendour, was the creation of wealth, power and arrogance, and had rather a 'dehumanizing banality' associated with it (1981: 96–118).

The relationship, or what Dubos describes as the 'fitness' between humans and their environment, is always one which is diverse and changing. Making an interesting comparison between the tribal way of life of the Vermont Indians around Lake Champlain, as described by the Swedish naturalist Peter Kalm (1772), and the 'civilized' life of the English naturalist Gilbert White ([1789] 1989), writing on natural history in eighteenth-century England, Dubos illustrates the very different types of relationships that exist between humans and the natural world. However, given the fact that most landscapes have been shaped to some degree by humans, Dubos also emphasizes that the 'fitness' between the ways of life of humans and the external world is never perfect and always transient (1973a: 124–125). Thus landscapes can be profoundly and rapidly transformed by human interventions. As an example, Dubos outlines the impact of the Enclosure Acts of the eighteenth century, a form of class robbery which facilitated certain types of agricultural improvement. The outcome was the conversion of the English countryside into a 'patchwork of semi-rectangular fields, each five to ten acres in area, divided by ditches and straight lines of hawthorn hedges, with trees growing through the fields in regular rows' (1973a: 125). This specialized landscape was thus, Dubos insists, a very artificial creation, which became, as a mature landscape, rich in songbirds and other forms of wildlife. It is now considered *the* quintessential English landscape, and often described as if it was purely natural. In recent years, under industrial

agriculture, much of this landscape has been transformed with the removal of ditches and hedgerows, much to the detriment of wildlife. Even so, Dubos notes, some connoisseurs of scenery seem to welcome the open vistas that are now being created – especially in Northern France and in the English Midlands (1973a: 126).

The fitness of the environment for human habitation clearly involves good sanitation, adequate food and water, clean air and healthy living conditions, open spaces and satisfactory human contacts – in short, ‘environmental conditions essential for physical and mental health’ (1973a: 127). Yet outlining what is considered a ‘desirable’ environment for humans invariably implies, Dubos argues, an ‘anthropomorphic’ attitude, one that is inherent in the human approach to environmental problems. As he proclaims: ‘Ecological purists notwithstanding, all ecology is anthropomorphic in the final analysis’. Thus when an ecologist laments the fact that modern life transforms urban areas into environments suitable only for rats, cockroaches and ragweed ‘he obviously judges the situation from man’s point of view, not from that of rats, roaches or ragweed’ (1973a: 127).

All this is lost on many environmental philosophers, who continue to make a radical and rather facile dichotomy between anthropocentric and biocentric worldviews. Because humans are now an intrinsic component of practically all existing ecological systems, some degree of ecological management is imperative, Dubos felt, although such management needs to embrace a long-term perspective. For there has to be some stability in the relationships between the components of any living system, whether a human personality or a human settlement. Such environmental designs should go beyond mere survival, and the simple avoidance of disease and suffering, but rather create the conditions favourable to the full development of the human personality – physical and psychological, as well as social. For the human person is fundamentally a ‘social animal in a deep biological sense’ (1973a: 134).

The cultural adaptability of human beings – which Dubos suggests is quite ‘prodigious’ – has enabled them to spread throughout the world, and to create an amazing diversity of environments, ranging from the medieval farmlands of Western Europe to the paddy-fields of Asia, from the *pueblos* of the Rio Grande to the agricultural settlements of the Ivory Coast. But again Dubos emphasizes that these different environments derive their unique quality – the ‘spirit’ of place – not so much from their topographical or climatic peculiarities – although

these are important – as from the intimate historical associations between humans and nature. The transformation of the landscape by humans Dubos therefore considers to be – at least potentially – a ‘creative act’ (1973a: 137). He is therefore not opposed to the formal gardens of Italy and France, or the great parks established in the seventeenth and eighteenth centuries by the English aristocracy, but he does emphasize that landscape styles are only successful if they are compatible with the ecological imperatives of a particular region. What he suggests then is the need to ‘design with nature’ (1973a: 137). This does not involve imposing an abstract schema on a region, but rather allowing the local topography, climate and biota to determine the kind of landscape and architecture best suited to a particular region – form and order being inherent in the land itself. Dubos cites the landscape architect Ian McHarg, a disciple of Mumford, as exemplifying this approach, describing his book *Design with Nature* (1969) as a visionary text. The human landscape for Dubos, whether rural or urban, should therefore not only reflect the ‘spirit of place’ but also embody creative human values. Dubos therefore concludes that where human influence has been intelligently and creatively applied, the relationship between humankind and nature can be considered a ‘true symbiosis’, a relationship in which humans and the landscape mutually influence each other (1981: 65).

The Wooing of the Earth

As with the book *A God Within*, Dubos' later contribution to an understanding of the environmental crisis, *The Wooing of the Earth* (1980), has its essential origins in the column that he regularly wrote for *The American Scholar* during the 1970s – significantly under the title 'The Despairing Optimist'. It offers in succinct form an outline of Dubos' essential thoughts about the relationship between humans and the natural world, and his own response to the social and ecological crisis that was highlighted during that period by the counter-culture movement. Indeed, the 1970s has been defined as the 'Environmental Decade' (Roszak 1970).

Although Dubos was critical of the myth of the Noble Savage he nevertheless acknowledged, like Kropotkin, that in contrast to the Faustian attitude of the 'Western way', tribal people were much more closely identified with the natural world, from which they derived their basic subsistence. Even so, it is somewhat misleading to suggest that they 'worship the sky and the clouds, trees and animals, mountains, rocks, springs and rivers as the living expressions of the cosmic order from which they derive their being' (Dubos 1968a: 104, emphasis added); for such phenomena are essentially seen as embodiments or theophanies (to use Mircea Eliade's terms – 1959: 11) of spiritual beings. Nevertheless, Dubos suggests that Native Americans – specifically Chief Seattle and the Navajo – have a mystical sense of relationship with the natural world, and that their lives 'derived significance from an emotional identification with nature' (1968a: 105; for critical accounts of the notion that the Native American is a 'Noble Savage' see Grinde and Johansen 1995: 23–55; Krech 1999).

The book however that seems to have made an important impact on Dubos' thinking was one published to commemorate the centenary of the birth of the Bengali poet and philosopher Rabindranath Tagore (1861– 1941): *Towards Universal Man* (1961). It includes an essay entitled 'A Poet's School' in which Tagore outlines his thoughts on education, and in it Tagore recalls a journey he made as a youth across Europe from Brindisi to Calais. He watched with keen

delight and wonder the European landscape ‘glowing with richness under the age-long attention of her chivalrous lover, western humanity’. It reflected, Tagore thought, ‘the heroic love-adventure of the west, the active wooing of the earth’. Tagore hoped to combine this Western attitude to nature and its spirit of service with the contemplative tradition of Eastern philosophy, enwrapped in its ‘introspective vision of the universal soul’ (1961: 294).

What specifically appealed to Dubos was Tagore’s suggestion that the visual charm and agricultural productivity of the European countryside were the result – as Tagore himself put it – of ‘the perfect union of man and nature, not only through love but also through active communication’ (1961: 295). It involved the ‘active wooing’ of the Earth – hence the title of Dubos’ book.

As I discussed in the last chapter, Dubos strongly argues that human beings now typically live in ‘humanized’ landscapes, and that what constitutes ‘nature’ for most people are actually ‘cultural environments’. And, paradoxically, some of the landscapes we most value and admire are the result of ecological degradation. A typical example is that of the Greek countryside, an almost treeless landscape, rich in sun-loving aromatic plants, whose beauty and austerity has been portrayed by Greek poets as symbolic of the Greek genius. But Dubos emphasizes that the colour and the beauty of the Mediterranean landscape is largely due to human action – specifically relating to the two ‘cardinal sins’ of ecology, namely deforestation and soil erosion. The humanization of the Greek landscape, a region once well forested, has been achieved, Dubos writes ‘at great ecological loss’ (1980: 3). Unlike many ecologists, particularly deep ecologists and wilderness enthusiasts, Dubos does not view this transformation as entirely negative; for it is also the outcome of creative human interventions into natural systems. Thus Dubos felt it important not only to preserve wilderness areas, but also to conserve cultural landscapes where the partnership between humankind and the earth ‘has generated values that transcend those created by natural forces working alone’ (1980: xv).

Dubos thus came to express an almost heretical viewpoint within the ecology movement – namely that humans could ‘improve’ on nature, if, that is, they approach the natural world with respect, imagination and intelligence (1980: 61).

Acknowledging that the orthodox ecological viewpoint, well expressed by environmental philosophers and deep ecologists, tends to view anthropocentrism in the most negative fashion, as something to be critiqued and decried, Dubos

argues that an anthropocentric attitude is not only valid and important, but unavoidable. As he writes, we cannot help making value judgements, and 'we naturally give preference to human values' (1980: 61). An anthropocentric attitude is said to imply a Cartesian ethic that sets humans apart from the natural order, and above it; but Dubos emphasizes the dual aspect of human existence, and quoting from St Paul, indicates that humankind is both *in* nature and not quite *of* it. But this is equally true, he suggests, of other animals, for each living species and each particular organism constitutes an entity distinguishable from the rest of nature: 'Living things must of course function as parts of nature, but they are never passively moulded by their environment' (1980: 62). Thus animals, including humans, do not live in a state of benign harmony with nature; they creatively respond to the challenges of a particular environment, each in its own unique way. For example, beavers gnaw down trees and create dams and small lakes; prairie dogs construct extensive burrows on the North American plains, and some mammals, like the bison and elephant, profoundly disturb the physical environment. There is no evidence to suggest, Dubos writes, that early humans always lived in ecological harmony with nature; they probably always considered themselves somewhat apart from the natural world. Early hunter-gatherers, as noted earlier, utilized fire to create savanna-like environments, and there is evidence to suggest that from the late Pleistocene period onwards humans have been an important factor in the extinction of many large mammals and flightless birds (1980: 64; see also Dorst 1970: 34–87).

During the Neolithic period there was widespread deforestation, and throughout history, human activity has profoundly altered the landscape, often destructively, to the detriment of human life. In many ways, Dubos suggests, humans simply behave like animals – we often, like beavers, ruin the land to satisfy our immediate needs, act like predators killing animals just for the fun of it, and often use resources recklessly, as if we had no concern for others, or any thought for the future. Yet cultural evolution and an expansion of empirical knowledge, that eventually led to a greater understanding of ecology, has led people to recognize that the 'humanization' of the planet can only be viable and lasting if fundamental ecological laws are respected. Thus the relationship between humans and nature, as Tagore intimated, has to be one of love and respect, not one based on Faustian domination (Dubos 1980: 68–69).

The humanization of the earth and the creation of cultural environments (which constitute most of what Europeans now call 'nature') thus began in antiquity, if not before, and was completed throughout most of Europe and Asia, Dubos

suggests, by the eighteenth century: ‘Depending upon the places, it involved deforestation, drainage, irrigation or such spectacular changes in topography as the terracing of slopes in hilly regions and the reclaiming of the land from the sea, as in the Netherlands’ (1980: 53).

Some of the most beloved and productive landscapes of the world – the olive groves of Greece, the hedgerows, fields and woodlands of northwestern Europe, the village of New England, the wet-rice cultivations of Asia – are all the outcome of creative human interventions. Such landscapes often have a humanized quality that transcends their natural endowments, and with respect to the Ile de France, Dubos’ beloved homeland, he suggests that it is now ‘visually more diversified and emotionally richer than it was in its original forested state’ (1980: 51).

Even the wild moorlands of the British Isles do not represent original natural systems, but were developed and are maintained through human agency, particularly the use of fire and the grazing of livestock (1980: 55). Dubos reiterates the importance of the creation of savanna-like environments by early human communities – environment where good visibility was essential for security and the development of hunting skills (1980: 58). The preference for open landscapes is still reflected, he felt, in the creation of parks and gardens.

Although the notion that humans can manage the earth and improve upon nature is often taken as the ultimate expression of human hubris and conceit, Dubos nevertheless felt that human interventions into nature need not be destructive and that we could in fact ‘improve’ upon nature. This was possible to the extent that humans could identify the unexpressed potentialities of nature and bring them to fruition ‘by modifying environments, thus increasing the diversity of the earth and making it a more desirable place for human life’ (1980: 80).

This involved not so much living in ‘harmony’ with nature – Dubos seriously questioned the notion that ‘nature knows best’ – but rather developing a relationship with the natural world that was creative and symbiotic. Thus although landscape architects invariably impose a human pattern *on* nature, working *with* nature has always been one of the fundamental tenets of good landscape architecture. Two complementary aspects are always involved – the artistic imagination of the architect, and the ecological constraints of a given landscape (1980: 127). Indeed, Dubos always insisted that humans and the natural world – the Earth – form complementary aspects of a single indivisible

system: 'Each shapes the other in a wonderfully creative symbiotic and cybernetic complex' (1973b: 54).

The term 'environment' for Dubos always tended to have rather limited and negative connotations, for it did not convey the quality of the relationships which humans often created with the Earth. As he put it: 'The English hedgerow . . . the European bocage, the Mediterranean hill towns, the Pennsylvania Dutch country, the Chinese mountain and water landscapes call to mind ecosystems intimately associated with certain ways of life' (1980: 113). They were not simply environments but 'places', representing a fusion of the natural world and human life. This symbiotic unity tends to generate, Dubos felt, a 'spirit' of place that gives a special human meaning and significance to particular locations or specific landscapes – as he described in *A God Within*. The importance of place, over and above the specifics of the environment, explains why people have a deep sense of nostalgia in relation to landscapes – expressed particularly well by Dubos himself (1980: 110; for useful studies of the ecology of place see Casey 1993; Hay 2002: 153–172, although given their philosophical interests neither scholar makes any mention of Dubos).

The Ecological Crisis

Although Dubos put a fundamental emphasis on the importance of cultural landscapes, he was equally well aware of the impending ecological crisis. As noted earlier, with the economist Barbara Ward, Dubos wrote a pioneering study *Only One Earth*, which is subtitled *The Care and Maintenance of a Small Planet*. As an unofficial report, it was a key text for the Human Environment conference, held in Stockholm in 1972. Dubos emphasized that the conference was not about the preservation of wilderness areas, but the *human* environment, the study indicating succinctly, even if rather dryly, some of the key environmental problems facing humankind. Indeed Dubos considered that the increase in world population and the destructive powers of modern technology – what Mumford described as the megamachine – had put humanity on a 'suicidal course', and he bewailed the fact that 'we' (that is, industrialized nation-states) often behaved as if we were the 'last generation to inhabit the earth'. He described the social and environmental conditions being created by 'technological societies' to be 'absurd' and detrimental to the future well-being of humankind, if not the planet Earth (1968a: 11).

Among the environmental problems that Dubos discussed at length in his

various writings, the following are noteworthy:

* Air pollution, once regarded as a local affair, has now become a global problem, manifested in acid rain and global warming. Some three decades ago Dubos was indicating, with prescience, that the reckless use of energy by industrial nations, particularly of course by the United States, had begun to alter the global climate 'by excess heat production, the accumulation of dust particles, and the increase in atmospheric carbon dioxide'. The melting of the polar ice caps, caused indirectly by human activity, was thus considered by Dubos a real possibility (Ward and Dubos 1972: 266–267; Dubos 1980: 21).

* Industrial wastes and synthetic chemicals derived from industrial production were causing widespread pollution of rivers, lakes, estuaries and the ocean. Dubos highlights the serious pollution of, for example, Lake Baikal, Lake Erie and the Mediterranean Sea, which had had a deleterious impact on their aquatic life, including fish stocks. Equally important were the oil slicks, detergents and the high levels of mercury now found in many marine environments – an illustration being Minamata Bay in Japan where in 1953 many fishermen died of mercury poisoning (Ward and Dubos 1972: 121; Dubos 1980: 21–22). Although the oceans are indispensable for human life, they continue to be utilized for the disposal of industrial wastes – even for radioactive wastes and toxic chemicals, with serious environmental consequences (Ward and Dubos 1972: 270–279).

* In many parts of the world large areas of arable land are being lost each year through soil erosion and desertification. Many deserts, of course, are the result of atmospheric patterns, but in the main, recent desertification has been caused by the human mismanagement of the environment, particularly with regard to semi-arid and fragile ecosystems like the Sahel. Dubos mentions that in seventeen years the Sahara desert in the Sudan had advanced some fifty or sixty miles southwards, and also notes the same processes at work in the Atacama and Thar deserts. The evidence suggests that it is human activity and not climate change that is responsible for desertification, and Dubos largely puts the blame on local pastoralists in semi-arid regions; people like the Maasai, whose cattle are seen as overgrazing the landscape. As Dubos concludes: the Maasai 'create desertic conditions wherever they move in the Serengeti and bring about the destruction of the wilderness and its wildlife' (1980: 24). This interpretation is quite misplaced; the Serengeti is not a 'wilderness' and anthropological research has indicated that Maasai pastoralists, livestock and wildlife have co-existed in East Africa for over 2,000 years, and that the grazing of the livestock and the Maasai

burning activities have largely been responsible for *creation* of such a highly valued landscape as the Serengeti (see Collett 1987).

* In the 1940s some 15 per cent of the earth's land surface was covered in tropical rainforest, an ecosystem that contains a high proportion of the world's plant and animal species. Dubos describes it as probably 'the most ancient ecosystem of our planet', and highlights the fact that the rainforests play a vital role in the ecological balance of the earth by trapping enormous amounts of solar energy as well as by absorbing large amounts of atmospheric carbon dioxide. Over the past half-century, more than half of the earth's tropical rainforests have been destroyed, mainly through mining operations, the expansion of cattle ranches and the activities of timber corporations. This deforestation, Dubos argues, is likely to have serious ecological consequences – reducing biodiversity and impacting upon the Earth's carbon cycle (1980: 25–26; Carwardine 1990: 45–48).

* The development of industrial agriculture, with its use of heavy machinery, and its very heavy use of chemical pesticides and fertilizers, represents, Dubos felt, a dangerous simplification of the landscape. For the trend towards monoculture and the irrational mining of the soil, though important in securing high yields of food in the short term, may have 'catastrophic' consequences in the future – both social and environmental. Recent studies have in fact indicated the detrimental social and ecological consequences of industrial agriculture, particularly in relation to the 'green revolution' in South Asia. Dubos highlights the important impact that such industrial farming is having on the cultural landscapes of Europe, in destroying small fields and hedgerows (much to the detriment of wildlife), which were once 'among the most valued amenities of the European landscape' (1980: 28; Ward and Dubos 1972: 135–136; Clunies-Ross and Hildyard 1992).

* Industrialization and urbanization not only destroy wilderness areas and valued 'humanized' landscapes, they are also having a deleterious impact on the quality of human life in urban contexts, particularly when viewed in relation to the growth of modern technology. Social regimentation, traffic jams, environmental pollution, constant exposure to noise and other unwanted stimuli, racial conflicts, economic poverty, injustice in all its forms – all these are the undesirable accompaniments, Dubos argues, of economic and technological growth. Loneliness and emotional solitude, and a sense of alienation not only from the natural world but also from other humans, are also pervasive features of

contemporary technological societies. Quoting from Mumford's *The Myth of the Machine* (1967), Dubos emphasizes that human freedom and the full development of the human personality are being 'sacrificed' at the altar of 'technological regimentation' – to an industrial economy geared to efficiency, profits and power. On top of all this, there is a 'collective lunacy' afoot that creates the threat of nuclear warfare (1968a: 23–26).

Like Mumford, Dubos is highly critical of the vast expansion of private automobiles – given the fact that they result in the pollution of the atmosphere via their toxic exhausts, cause some 40,000 fatalities each year in the United States, and contribute further to the 'soul-destroying mechanization of our everyday life' (1961: 74). In an appendix to *The Wooing of the Earth* Dubos lists the main dangers that he felt threatened humankind and the earth: nuclear warfare; the failure to provide meaningful employment for young people; overpopulation; environmental degradation and pollution; and the excessive use of energy and resources (1980: 160–161). It is of interest that Dubos does not stress more political issues, namely the rampant social inequalities that now exist throughout the world, and the growing concentration of economic power under global capitalism, along with the 'dialectic of violence' that is reflected in the disintegration of local communities, the denial of human rights, widespread genocide and political repression by governments (Morris 2004: 15–16).

Throughout human history there have been environmental disasters, but these have tended to be local phenomena. In recent decades the growth of the world population coupled with the destructive powers of modern technology have, Dubos felt, magnified the dangers that threaten humankind and the Earth. But he refused to join the prophets of doom, even less the technological utopians, but rather envisaged a future in which present dangers could in fact be faced and overcome. As he concludes: 'With our knowledge and a sense of responsibility for the welfare of humankind and the earth, we can create new environments that are ecologically sound, aesthetically satisfying, economically rewarding, and favourable to the continued growth of civilization' (1980: 159). This inevitably implied taking an anthropocentric perspective if not a Faustian one, and Dubos notes his agreement with Confucius that lighting a candle is better than cursing the dark (1980: 30).

Wilderness and Nature Conservation

Dubos always claimed that human relationships and communion with nature

were the ultimate sources of human happiness, and one of the reasons for his 'despairing optimism' was that he felt the natural world had its own integrity. Indeed, he emphasized that undue pessimism towards environmental issues was largely unwarranted, given the fact that natural ecosystems have enormous powers of recovery from traumatic damage. Such 'resilience of nature' was expressed, for example, in the restoration of forests in the Verdun region of north-eastern France after the devastating conflicts of the First World War, and by the resurgence of all forms of life on the island of Krakatoa after the volcanic eruptions of 1883 (1980: 34–36). Dubos was, however, somewhat sceptical of the idea that the development of ecosystems went through an orderly succession of plant and animal species, to eventually reach a stable, 'climax' formation. Volcanic eruptions, earthquakes, natural fires, hurricanes, climatic changes and many kinds of random events have all played a part in the development of natural ecosystems, quite apart from human activities, and the real world is much more complex and interesting, Dubos suggests, than the 'simplistic picture of systematic succession and climax' (1980: 43; see also Botkin 1990).

Since Neolithic times the majority of human beings have lived in cultural environments, but nevertheless the 'wilderness' – any environment that has not been overly disturbed by human activity – continues to play an important part in human life. Indeed, Dubos emphasizes that his own life was immensely enriched by his contacts with the wilderness – whether it involved visits to the Pacific Coast, the mesas of New Mexico, the Grand Canyon or the primeval forests of Oregon (1980: 7–8). Such wilderness experiences tend to require the participation of all our senses, he writes, in ways that invoke the kind of 'organic, holistic knowledge' that was perhaps evident among early hunter-gatherers, and tribal people more generally. Such knowledge, however, ought not be conflated with religious beliefs and shamanic visions (1980: 9; cf. Abram 1996).

Yet Dubos highlights the fact that throughout human history the 'wilderness' has been the subject of different cultural interpretations. In the Bible the word 'wilderness' occurs approximately 300 times; yet it tends to refer to wild, low-rainfall areas, and all its meanings are derogatory. The wilderness is generally regarded as the abode of malevolent spirits and evil influences. Among early European communities the term 'wilderness' likewise had rather negative connotations, and uninhabited regions – high mountains, marshlands and primeval forests – tended to be treated with fear and apprehension, if not contempt, as an environment alien to human well-being and purposes.

The early Puritan settlers in the United States, as earlier noted, looked upon the eastern forests as a wilderness, as a desolate and unpleasant environment full of ‘wilde beastes and wilde men’ (Dubos 1980: 11). Not until the eighteenth century did the European attitude to wild landscapes shift to one of aesthetic admiration, to become a source of emotional and intellectual enrichment. This was particularly well expressed by Rousseau and the English Romantic poets such as Wordsworth (Dubos 1980: 13).

Emphasizing the importance of the wilderness concept in the writings of Emerson, Thoreau and Muir, Dubos affirms the need to preserve wilderness areas, both with regard to their ecological importance – in terms of their biodiversity and as an insurance against the dangers inherent in the instability of modern agricultural systems – as well as for our psychological and emotional well-being. Like Edward Wilson and his biophilia hypothesis, noted earlier, Dubos emphasizes that humanity has been shaped by the Earth, and that there is therefore a deep psychological need to retain contact with the forces of nature and with other living beings. Yet although Dubos suggests that we need the wilderness for biological and psychological wellbeing, there is no need, he insists, to actually live in wilderness areas, and he notes that many writers who express a deep love for the wilderness – like Thoreau – always affirmed the importance of civilized life. The desire to preserve wilderness areas, now described as ‘biodiversity reserves’, is nevertheless, Dubos contends, an important expression of human values (1980: 17; on the idea of the wilderness see also Nicolson 1959; Nash 1973; Oelschlaeger 1991).

There is therefore, Dubos concludes, a deep ambivalence in the attitude of many people towards the environment. On the one hand, there is a concern for the *preservation* of the wilderness in its various forms – tropical rainforests, alpine regions, the Antarctic, marine estuaries and other types of wetland, ancient woodlands, the African savanna – along with their diverse forms of life. On the other hand, there is also a concern for the *conservation* of what are in fact cultural environments, the outcome of human creative agency, such as the woodlands and hedgerows of southern England, the European bocage and the farmlands of eastern North America – all of which are the result of deforestation, the drainage of marshlands and intensive cultivation and arboriculture over many centuries (Dubos 1980: 128–129). This ambivalence was well expressed, Dubos maintains, not only by Mumford, but also by such well-known American naturalists as Henry Thoreau, John Burroughs and Joseph Wood Krutch. For although they affirmed the importance of wild landscapes and the need for

solitude and some contact with nature, they also affirmed, as earlier noted, the importance of cultural landscapes and human civilization. An essentially ambivalent attitude towards the natural world, Dubos thought, was almost inherent in human nature (1980: 130–132).

This ambivalence was in essence re-enacted in the well-known controversy surrounding the building of a dam on the Hetch Hetchy River in the Yosemite National Park. In 1901 the city of San Francisco proposed to build the dam in order to provide the city with water, as well as a source of hydroelectric power. John Muir, then president of the Sierra Club, and one of the prime movers in the establishment of Yosemite as a national park in 1890, was an uncompromising wilderness preservationist, and led the opposition against the dam. He described the political elite of San Francisco, who were supported by such conservationists as Theodore Roosevelt and Gifford Pinchot, as ‘temple destroyers’ and ‘devotees of raging commercialism’, and as having an absolute contempt for nature. Muir lost this particular bitter dispute and in 1913 President Wilson signed the bill authorizing the flooding of the valley. Some members of the Sierra Club considered that the damming of the river actually enhanced the scenic beauty of the valley, and that providing domestic water to San Francisco represented ‘its highest use’. This, Dubos notes, reflected a highly anthropocentric attitude (1980: 135; see also Nash 1973: 161–181 for an excellent discussion of this issue).

The increasing popularity of the wilderness areas among the general public, encouraged by what has been described as the ‘wilderness cult’ has led, of course, to increasing conflict between wilderness preservation and the need for recreation. Noting that there were some 8,000 people per square mile in the Yosemite valley on one Fourth of July weekend, Dubos emphasizes the irony, since all of them were seeking some degree of solitude, or attempt to ‘escape’ from the pressures of civilization. Given the increasing exploitation of the national park – with its luxury hotels, ski lifts, tennis courts, swimming pools and golf courses – Muir’s dream of preserving wilderness areas so that people could experience and enjoy direct contact with the natural world seems to have been forgotten. Some kind of management and control of wilderness areas, Dubos felt, was therefore imperative, even though this inevitably diminished the quality of freedom that is normally associated with the wilderness (1980: 138).

In advocating the need for a more symbiotic relationship between humankind and the Earth, Dubos emphasized the importance of diversity. He thus suggested

not only the need to embrace both the preservationist and conservationist perspectives, but to create an environment that included wilderness areas, diversified cultural landscapes and urban settings. As a direct consequence of the complex history of the human species, Dubos felt that most humans 'long to recapture now and then each of the various experiences of their evolutionary past' – that of the hunter-gatherer (wilderness), that of the farmer and pastoralist (humanized landscapes) and that of the urban dweller (city life). But human beings and the earth need to retain, Dubos concludes, something of their 'wildness' (1980: 158–159).

Science and Holism

Stimulated by Kenneth Clark's well-known television programme *Civilisation* (broadcast in 1969) and by Jacques Ellul's (1965) critique of 'technological civilization', Dubos offered his own reflections on the meaning of this much-disputed concept. The term 'civilization', Dubos suggests, was first used by the French economist Marquis de Mirabeau in 1757, and came to be employed by the philosophers of the Enlightenment as roughly equivalent in meaning to the older word 'civility'. It thus denoted gentle behaviour, humane laws, limitations on war, and a high level of purpose and conduct (Dubos 1973a: 141). By the nineteenth century, in the wake of the Industrial Revolution, its meaning shifted, and it came to signify technological civilization, the emphasis being placed on the production of manufactured goods, on economic wealth and on material progress. The word thus came to lose its earlier eighteenth-century meaning of 'civility', and became a virtual synonym, Dubos suggests, of Galbraith's derisive expression – 'the affluent society'. Dubos thus concludes that:

Most of the scientific and technological dreams of mankind have come to pass. In fact the achievements of modern scientific technology greatly exceed the most visionary imaginings of Franklin, Condorcet and other philosophers of the Enlightenment. But the consequences of these achievements for society do not correspond to eighteenthcentury hopes.

(1973a: 144)

The aspirations of the eighteenth-century philosophers had not been fulfilled, and something had gone drastically wrong, Dubos admits, with technological civilization. Dubos is not, however, quite so perverse as to blame the Enlightenment thinkers for the ills and crimes of the twentieth century, still less to blame them on 'reason' as postmodern theorists are prone to do (for a useful study of Western civilization see Patterson 1997).

While critical of Kenneth Clark's nostalgia for the past and his lack of enthusiasm for contemporary 'civilization' Dubos is equally critical of Ellul's

extreme fatalism towards modern technology, which is adjudged to be out of human control. For Ellul, technological society meant a regimented and mechanized form of social existence geared to the efficiency of the machine and a centralized bureaucratic form of politics. Though acknowledging that humans do in fact become well adapted to bureaucratic and technological environments, Dubos also emphasizes that humans crave creative spontaneity. The idea that humans must 'conform' to technological imperatives Dubos finds quite untenable, for the technological way of life is by no means necessarily conducive to human happiness and well-being. He seriously doubted whether many human beings would be happy functioning in a 'cyborg civilization' (1981: 69).

But the real prophets of doom, for Dubos, are not the pessimists like Ellul, who view humankind as on a course of self-destruction, but rather those who view the future as entailing more 'growth' and an extrapolation of the present – completely losing sight of the eighteenth-century ideal of a 'humane civilized life' (1973a: 150).

Critiques of industrial capitalism have, of course, a long history, and Dubos mentions the revolts against machine technology by the followers of Ned Ludd in the early nineteenth century, as well as the industrial 'sabotage' by French workers – the term deriving from the word '*sabot*', the wooden shoe by means of which the workers damaged the machines. Dubos also notes the Belgian poet Verhaeren, whose poetry expressed a lament, felt by many sensitive people, over the degradation of nature and of human life by industrial technology. Unlike Mumford, Dubos never employs the term 'capitalism', but always refers to 'industrial civilization' to describe the present era. But the contemporary critique of industrialism has, Dubos suggests, taken on a new dimension in recent decades and thus a new meaning.

The contemporary ecology movement, which represents a critique of industrial civilization as well as of the 'cult of progress', has indicated that if present trends continue 'the physical environment would become progressively impoverished in sensual qualities, and the social environment so highly organized and regimented as to resemble that of the social insects' (1973a: 154). Equally important, there is the recognition, in contrast to the past, that not only is the impact of industrial technology of far greater magnitude, but that the earth itself is a finite entity. As Dubos puts it: 'Since the earth is limited in area, in its store of unrenowable natural resources, and in its ability to cope with pollutants,

the size of the human population and the amount of industrial production obviously cannot continue to grow forever' (1973a: 155). Making a contrast between the subsistence economies of pre-industrial societies and the 'extractive economy' of industrial civilization (capitalism), Dubos emphasizes the positive aspects of earlier forms of agricultural husbandry. Arable lands and pastures were created from the wilderness by prolonged human efforts over many centuries, and the land was enriched by the proper rotation of crops and other forms of wise agricultural management. All over the world, Dubos writes, pre-industrial societies have 'drained swamps, cleared river banks, dug canals, built roads, established cities', and in a thousand other ways have created a liveable world, that we now regard as the 'natural environment' for human life. Ever since the Palaeolithic era, humans have created 'magnificent civilizations' out of the wilderness by means of practices that have had limited destructive effects on the natural world (1973a: 156).

In contrast, contemporary industrial civilization is largely based on an 'extractive' economy, mining oil, gas and mineral ores that have accumulated in the earth through geological ages, as well as mining the agricultural wealth that has accumulated in the form of humus. It is now beginning to 'mine' the oceans for their wealth of mineral and biological resources. The extractive system is well illustrated, Dubos felt, by contemporary industrial agriculture; for in order to produce high yields of crops the farmer must now use 'complex equipment, unrenowable oil as fuel for his machinery and large amounts of fertilizers and pesticides, the manufacture of which also requires the use of fossil fuel and other unrenowable resources' (1973a: 156). In the United States, Dubos notes, the farmer expends more calories in the form of industrial equipment and fuel than he obtains from his field in the form of corn, not to mention that this form of farming tends to reduce the natural fertility of the soil.

In an epic poem entitled *Western Star*, Stephen Vincent Benet (1944) had suggested that progress or 'moving forward' was a true manifestation of American destiny or 'genius'. Benet is considered by Dubos an exemplary voice of the American faith in the virtue of progress, in 'growth for growth's sake', which, Dubos suggests, has dominated Western civilization ever since the eighteenth century. It implies that 'more and more, bigger and bigger, farther and farther, faster and faster, constituted a sure formula for the improvement of human life' (1973a: 159).

The concept of progress, which implies the belief that an abundance of material

goods inevitably leads to human happiness, is, Dubos argues, a ‘myth’ that needs to be challenged. Apart from the fact that great wealth coexists in the contemporary world with abject poverty – which Dubos describes as an ‘ethical monstrosity’ – the emphasis on growth completely ignores the adverse side-effects of ‘growth’: the severe ecological disturbances that are evident on a global scale (and which were discussed in the previous chapter) (1973a: 158). The present obsession with progress, identified with economic growth, needs therefore to be checked. Preservation and improvement in the quality of *life* is now far more important than promoting economic growth and the endless production of material commodities. It is the quality of life that has to be considered in assessing the social merits of various technological developments. Following the work of the economist Herman Daly, Dubos advocates the need to develop a ‘steady state’ economy, for he concludes that industrial society cannot last long in its present state. The need, then, is to develop a more ‘humane civilization’ (1973a: 162; see also Daly 1996).

For Dubos, like Mumford, this implied an emphasis on regionalism and on a decentralized economy, for he felt that the local management of affairs was much more effective than national or global management (1981: 101). Regional culture and identity were also much more sustaining than either rootless nomadism (advocated by poststructuralist philosophers like Deleuze) or belonging to specific nation-states (1981: 92). What was critical and crucial for Dubos was diversity, for without it freedom and creativity had little meaning, and were empty words. ‘Think globally, act locally’ was, of course, one of Dubos’ favourite aphorisms.

Although Dubos was not opposed to technology, especially if it was conducive to the creation of a healthy and civilized environment and way of life, he was extremely critical of the futuristic visions of technological prophets like Buckminster Fuller (1969). Such technocratic thinking reduces humans to machines, and the world that such prophets proclaim suggests that everything will grow larger, move faster and be totally mechanized – thus a world that is dismal and biologically sterile, geared to mechanical efficiency rather than to meeting human needs, aspirations and potentialities (1968a: 153).

Advocating what he described as a new ‘scientific humanism’, Dubos was critical of much contemporary science, which, drawing its inspiration from Cartesian metaphysics, tended to be reductionist, atomistic and to model itself on the orthodox methods of physics and chemistry. He did not deny the importance

and usefulness of such an analytical or atomistic approach, but emphasized that it needed to be complemented by an ecological approach which sought to understand the mechanisms through which natural systems functioned as ‘integrated wholes’. This implied a relational epistemology which stressed that no living organism can function as an ‘independent, separate entity’ for they can only be understood when considered as a part of the system within which they function. This is particularly true of humans because all aspects of our lives are profoundly influenced by a diversity of factors – physical, biological, psychological, social and cultural. What is then important are the complex inter-relationships between living things, including humans and their total environment, for human life is profoundly influenced by the evolutionary, social and experiential past (1968a: 93, 1981: 37). The most pressing problems of humanity, Dubos argues, involve relationships, communications and changes of trends

– in other words, situations in which ‘systems must be studied as a whole in all the complexity of their interactions’ (1968a: 32). This was particularly true of human life, and Dubos thus suggested a scientific approach that was organismic, holistic and ecological.

Having spent much of his life engaged in scientific work, Dubos was always fascinated with the social implications of science, and particularly with the Enlightenment vision that the systematic application of science to human affairs would bring health, prosperity and happiness to humanity. But Dubos was cognizant of the fact that the second half of the twentieth century had produced what he termed ‘social nightmares’ – nuclear warfare, congested cities, electronic surveillance, starving populations, mechanized, regimented and dehumanizing forms of life, atmospheric pollution and the ecological crisis more generally. All these were the products of industrial civilization (capitalism) and were born of science. He describes them as the ‘ill-effects’ of science (1961: 12, 1970: 111). This scenario, for Dubos, always brought to mind one of Francisco Goya’s most famous etchings which depicted a scholar asleep at his desk, and bears the inscription: ‘*El Sueno de la Razon Produce Monstros*’: ‘The Sleep (or dream) of Reason Produces Monsters’. Whether or not it is the *sleep* of reason that produces monsters or the utopian *dreams* of reason that produce them is unclear, but Dubos acknowledges both interpretations and suggests that when reason falls asleep or becomes intoxicated with its own powers, ‘monsters take command of civilization and man loses his humanity’ (1961: 12–15).

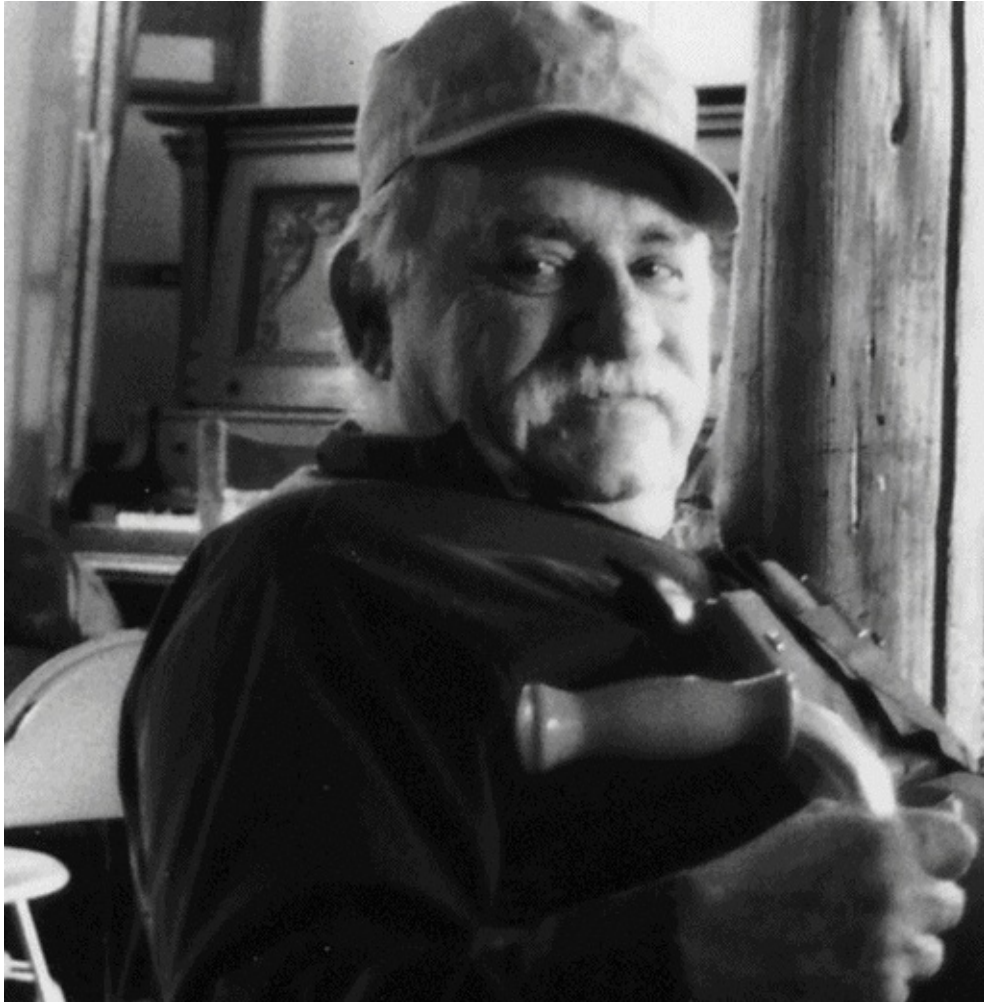
Accepting that both reason and science are now indispensable parts of human

civilization, Dubos is critical of both ultra rationalism and scientism. Although reason has been immensely productive of scientific knowledge and technological achievements since the Renaissance, it is invariably destructive, Dubos argues, if not guided by worthy human concerns and ethical commitments. Reason always needs to be tempered by wisdom and the human imagination.

Dubos was writing some forty years ago, but his remarks still have relevance – he suggests that attitudes towards science veer to extremes, and two contrasting attitudes are expressed. One is to have unlimited confidence or faith in the power of science (and technology) to solve all human problems, and when expressed by contemporary technocrats this amounts at times to a narrow-minded intellectual arrogance. The other attitude, expressed by some philosophers and *littérateurs*, as well as by the anti-science movement, repudiates science completely, as something to be despised and derogated (1961: 8–11). Attempting to steer between these two extremes, Dubos affirms the importance of science, especially its creative dynamism. He admitted, however, that the utilitarian aspects of science never loomed large in his own vision. Although difficult to define, he suggested that science was essentially characterized by the following: ‘The quest for the real, the verifiability of assertions, clarity in definitions of the terms employed, consistency in the affirmations stated in these terms, and a humble respect for . . . facts’ (1961: 5). But he felt that science, along with technological innovations, should be made subservient to human ends, tailored to fit social goals based on ecological principles. As he concluded: ‘Science and the technologies derived from it can best contribute to civilization, not through further expansion of the megamachine, but by helping in the maintenance of the ecological balance and in the development of man’s potentialities’ (1970: 257).

Dubos was always primarily concerned with encouraging a symbiotic relationship between humans and the natural earth, and in developing the human personality. He was in essence an ecological humanist.

Part 3



The Social Ecology of Murray Bookchin

Bookchin's Life and Work

Murray Bookchin (1921–2006) was one of the pioneers of the ecology movement, and certainly remains one of the most well-known and controversial of contemporary political ecologists. Both a radical activist and an important and influential radical scholar, for over fifty years Bookchin produced a steady stream of essays, political tracts and substantial books on environmental issues, on the culture of cities, on libertarian political movements and on social ecology that are truly impressive and pathbreaking. Yet he remained one of the key figures in the ecology movement not to succumb either to religious mysticism or postmodernism, but stayed true to the rationalist tradition of the Enlightenment. Throughout his life he was a leftist and a revolutionary. However, the social anarchist ideas he espoused no longer enjoy popularity within certain anarchist circles, especially among anarcho-primivists and so-called postanarchists.

Born in January 1921 in New York city to Russian Jewish immigrants, Bookchin, as Janet Biehl puts it, ‘was raised under the very shadow of the Russian revolution’ (1997: 2). His family had a strong commitment to revolutionary ideas and traditions, dating back before the Revolution, for his maternal grandmother Zeitel Kaluskaya had been a member of the Narodniki, the socialist revolutionaries, a populist movement with strong tendencies towards anarchism. It was a group of Narodniki who assassinated Tsar Alexander II in 1881. Bookchin’s grandfather, Moshe Kalusky, was a secular Jew who wrote for the Russian progressive and Yiddish press – to the degree that they were permitted to exist during the Tsarist period. After Moshe died around 1906, Bookchin’s grandmother emigrated with her family to the United States and settled in the Lower East Side.

From his earliest years, Bookchin was involved in radical politics, for the neighbourhood in which he lived, consisting of diverse immigrant communities, was, he records, ‘passionately radical’. Abandoned by his father, Bookchin spent his childhood in a Bronx apartment alone with his mother, in difficult circumstances, though supported by his extended family. At an early age, he became involved with the American Communist Party, and as a member of the

Communist Party and the Young Communist League, was involved in many radical activities – helping to organize the unemployed, participating in rent strikes, speaking at public meetings, supporting the Spanish revolution, selling the Party's newspaper *The Daily Worker* on street corners. But the young Bookchin soon became disillusioned with the communists, especially when in 1935 the Communist International initiated the Popular Front, which Bookchin, along with many other militants, felt was a form of class collaboration, and a betrayal of Marxism and the class struggle (1999: 23–39; see also Biehl 1997: 2). Two years later, during the Spanish Civil War, Bookchin broke completely with Russian communism and embraced Trotskyism, joining a group of libertarian socialists associated with the German Trotskyist Josef Weber. During the 1940s, Weber was to have an important influence on Bookchin, and Bookchin became a confirmed libertarian socialist.

After graduating from high school, Bookchin worked as an apprentice electrician, and later as a foundry worker in New Jersey, and became actively involved in union activities. After a stint of military service during the Second World War, Bookchin spent time as an automobile worker, and altogether spent ten years of his life as an industrial worker and union activist (1999: 42). Given this background, Bookchin was always highly critical of the pretensions, elitism and obscurantism of academics, especially those he describes as 'campus radicals'.

After the Second World War, Bookchin came to realize that the world had profoundly changed, that capitalism had become global, adversely affecting all aspects of people's lives, and that its hegemony was creating a serious ecological crisis. He also became increasingly critical of the trade union movement and what he terms 'proletarian socialism', but rather than becoming dispirited and disillusioned, he sought ways of revitalizing the revolutionary socialist tradition. He did this by drawing on the anarchist tradition, whose history had long been intertwined with that of Marxist socialism, ever since Bakunin's disputes with Marx in the 1870s (see Morris 1993a: 117–124), as well as developing an ecological critique of capitalism.

In 1962, drawing on his earlier studies and essays, Bookchin (under the pseudonym Lewis Herber) published a pioneering book on the ecological crisis, entitled *Our Synthetic Environment*. It appeared in the same year as Rachel Carson's *Silent Spring*, but was much more comprehensive and radical in its approach, detailing not only the harmful effects of pesticides, but the serious

environmental deterioration under industrial capitalism – chemical food additives, changing patterns of disease, the pollution of the atmosphere, rivers and lakes, the harmful effects of radioactive wastes, soil erosion, low-quality food and the degradation of the urban environment. Bookchin made it clear that the environmental crisis had its roots in the capitalist economy, and in his conclusions offered suggestions for a revolutionary decentralization of society (1962: 237–245). The writings of both Dubos and Mumford have an unmistakable presence in the text. It is worth noting that throughout his life, Bookchin continually and fervently emphasized that ‘capitalism is inherently anti-ecological’ (1971: 16).

During the 1960s Bookchin wrote a number of seminal and impressive essays that sought to unite an ecological perspective and critique with the revolutionary socialist tradition. The most influential of these is his 1964 essay ‘Ecology and Revolutionary Thought’. It has been described as the manifesto of the radical ecology movement, for it explicitly calls for a revolutionary transformation of society as the only real solution to the ecological crisis. It was later included in an important collection of his writings, entitled *Post-Scarcity Anarchism* (1971). The book, which has since become an anarchist classic, also includes several other pioneering essays such as ‘Towards a Liberatory Technology’ which discusses the potentialities of modern technology, and advocates the need to scale technology to human dimensions, and to utilize it specifically to eliminate what William Morris and others have described as ‘useless toil’, as well as Bookchin’s acerbic critique of Marxist socialism, ‘Listen, Marxist!’. This famous tract outlines what Bookchin considered to be the historical limitations of Marxism, or proletarian socialism, and critiques both the ‘myth’ of the proletariat as an agent of revolutionary change, and that of the vanguard party (1971: 173–200).

Throughout the 1960s Bookchin was actively involved in several environmental movements and anarchist groups, such as Ecology Action East, the anti-nuclear alliance Clamshell, the East Side Anarchists and the Anarchos group, which published Bookchin’s early essays. Towards the end of the decade Bookchin began teaching at the Alternative University in New York, and in 1969 drafted the manifesto for Ecology Action East: *The Power to Destroy, the Power to Create*. This is a powerful critique of the ecological crisis under capitalism, with radical suggestions for an alternative ecological society.

During the 1970s Bookchin continued to write articles on urban issues, on

Marxism (which he describes as the ideology of capitalism par excellence), on eco-technology, and he came to make an important distinction between social ecology and reformist environmentalism, as well as to initiate critiques of systems theory. These articles were collectively published as *Toward an Ecological Society* (1980) – another pioneering text.

In 1974, Bookchin began teaching social theory at Ramapo College in New Jersey, retiring as emeritus professor in 1983, while in 1974 he also cofounded and directed the Institute of Social Ecology at Plainfield, Vermont. The publication of *The Ecology of Freedom* (1982) was the culmination of more than a decade of writing, research and radical activism. Many regard this book as Bookchin's magnum opus. Besides giving a succinct outline of his concept of social ecology, the book provides a systematic account, drawing on anthropology, history and philosophy, of the historical dialectic between what Bookchin describes as the 'legacy of domination' (relating to the emergence of hierarchy, class society, and the rise of the state and capitalism) and the 'legacy of freedom' (alluding to libertarian and popular democratic movements and traditions which form a kind of undercurrent within Western civilization). But *The Ecology of Freedom* also includes insightful discussions on the social life of tribal societies (Bookchin drawing on the illuminating studies of Paul Radin and Dorothy Lee), on epistemologies of rule, on the social aspects of 'appropriate' or liberatory technology, as well as on the essential characteristics of a future ecological society, Bookchin paying a warm tribute to the utopian visions of Charles Fourier (1982: 328–332).

Bookchin's writing style, as expressed in *The Ecology of Freedom*, has been described as 'sometimes turgid' (Devall and Sessions 1985: 259), and Bookchin himself described the book as rather 'wayward'. Nevertheless, his thoughts on social ecology and on the dual legacy of Western civilization are radical, perceptive, scholarly and thought-provoking. It is worth noting, however, that as a polemical writer and political activist, Bookchin tended not to express his views in abstruse, jargon-ridden philosophical arguments, as do academics like Deleuze, but rather in assertive statements. But such assertions are always embedded in a wide scholarship, and supported by empirical research and factual data.

The Ecology of Freedom represents an original and coherent synthesis of ecology, social anarchism, Hegelian Marxism and radical humanism. The key influences on Bookchin's thought are the following: the organic, dialectical

philosophy of Aristotle and Hegel; the Marxist tradition, particularly as developed by the critical theorists Marcuse, Adorno and Horkheimer, whom Bookchin valued for their critiques of positivism and mysticism; the writings of Kropotkin on mutual aid and social anarchism; the ecological humanism of Dubos and Mumford; and, finally, the phenomenological biology of Hans Jonas. It is of interest that although Bookchin affirms that his own thought is essentially a form of evolutionary ecology, he makes no mention at all of Charles Darwin. The fact that Bookchin makes little reference to capitalism in the text is understandable; he always felt that Marx had covered the subject of class exploitation thoroughly, and what he aimed to do in *The Ecology of Freedom* was to enlarge and broaden existing concepts of social oppression (1999: 271; see also Biehl 1998b: 61).

Although *The Ecology of Freedom* is often discussed as Bookchin's magnum opus, in fact he produced several other substantive works, each of which is a valuable contribution to anarchist theory or to historical studies. A discussion of a selection of these now follows.

The Spanish Anarchists

This is a superb and very readable account of the 'heroic years' of Spanish anarchism (1868–1936). Intended as the first volume of a two-volume history of anarchism in Spain, Bookchin never completed the second volume of the book on the Spanish Civil War because he felt that after 1936 the CNT/FAI leadership suffered a tragic decline in its principles and practices. Well-researched and drawing on the important writings of Gaston Leval (1975) and Jose` Peirats (1974), *The Spanish Anarchists* (1977) gives a vivid history of Spanish anarchism from 1868, when the Italian anarchist Guiseppi Fanelli visited Spain, to the beginning of the Civil War. It introduces Bookchin's misgivings regarding proletarian socialism and anarcho-syndicalism; but what impressed Bookchin about the Revolution of 1936, which was the culmination of more than sixty years of anarchist agitation and activity in Spain, was the creation of the anarchist 'collectives'. For millions of people took over large segments of the economy, and established worker's self-management in both urban and rural settings. Bookchin's study is therefore, as Vernon Richards describes it, 'an informative and valuable book' (1983: 238).

Bookchin was later to offer his reflections on the Spanish Revolution and Civil War of 1936–1939, describing it as 'the greatest proletarian and peasant

revolution to occur over the past two centuries' (1994b: 1; on the anarchist collectives see Dolgoff 1974).

Urbanization Without Cities

Originally published as *The Rise of Urbanization and the Decline of Citizenship* (1987), this study, published in 1992, is a critique of urbanization or what Mumford called the megalopolis, and yet affirms the city as a uniquely human and ecological community, ideally one that is in a balanced relationship with the natural world. City life, Bookchin suggests, fosters a secular culture, enhances individuality and promotes a sense of shared *humanitas* – universal culture. Making a clear distinction between statecraft, associated with centralized states and representative government, and authentic politics, Bookchin defines the latter as involving active citizenship, made up of local or municipal assemblies that enact direct or participatory democracy and form loose confederations with regard to matters of common interest.

Affirming that many cities throughout history have acted as a countervailing force to centralized states, *Urbanization Without Cities* offers an interesting survey of what Bookchin describes as 'patterns of civic freedom'. He thus comes to discuss the ancient Athenian polis (which in its classical form Bookchin did not view as a city-state – though he recognizes its historical limitations), the medieval commune, the New England town meetings of the seventeenth and eighteenth centuries, the Parisian sectional assemblies during the French Revolution, and the anarchist collectives during the Spanish Civil War. These are interpreted by Bookchin as expressions of popular democracy. Thus in *Urbanization Without Cities*, he comes to outline the politics of social ecology, which he describes as 'libertarian municipalism'. He clearly identifies the concept of local democracy with libertarian socialism, and writes that this form of anarchism is committed to four basic tenets: 'a confederation of decentralized municipalities; an unwavering opposition to statism; a belief in direct democracy; and a vision of a libertarian communist society' (1995c: 60; on Bookchin's social anarchism see Morris 2009).

Interestingly, Bookchin saw great possibilities in developing the kind of town meeting democracy that he had experienced in the state of Vermont (1992a: 268–275), although his views have been rather unfairly criticized by some scholars (Black 1997: 67; see also Heider 1994: 67–68 and Bookchin's response and critique of Heider's distortions and misunderstandings of his work: 1994c). As

Heider describes Bookchin as a ‘conservative reactionary’, a Social Darwinist and an American Nationalist, she indicates little understanding of his politics, or indeed of contemporary anarchism. (On the politics of libertarian municipalism see Bookchin's essays 1992b, 1999: 142– 159 and Biehl's useful overview of the politics of social ecology, 1998a).

The Third Revolution

This ambitious project provides a detailed history of popular revolutionary movements in Europe and North America, from the late medieval period to the Spanish Civil War. It focuses on the ‘subterranean’ aspects of these popular movements – the events, political programmes, debates, actions, forms of organization – and on their often little-known or neglected leaders. The emphasis is thus on ordinary people – peasants, workers, artisans, radical intellectuals – and their attempts to defend human rights and to establish forms of social organization that embody liberty, equality and freedom. Extending over two volumes (Bookchin 1996–1998), the study covers the Peasant's Revolt in Germany, the English Levellers, the American and French Revolutions, the uprisings of 1848 and the Paris Commune. In these comprehensive, critical, insightful and well-researched books written for a general readership, Bookchin aims to rekindle the past revolutionary tradition and spirit, not out of academic interest, but rather to understand the lessons of the revolutionary past, and their relevance in striving for a more equitable and humane society in the future. *Third Revolution* expresses this need for a popular revolution. Past revolutions, specifically the French and Russian Revolutions, advanced in *stages*; namely, a ‘first revolution’ entailing the overthrow of the absolutist monarchy by a coalition of radicals, liberals and even some members of the aristocracy; and a ‘second revolution’ in which a radical government, supported by most of the insurgents, took over the reins of power, only to abort the revolution. This led to a point where the revolutionary populace came to demand a ‘third revolution’, to ‘reclaim the power they had lost’ (1996: 2).

The great European Revolutions embraced a universal appeal to humanity, and thus spoke for ‘oppressed humanity as a whole’. They thus contrast, Bookchin argues, with revolutionary movements in the Third (Developing) World during the nineteenth and twentieth centuries, for these focused on nationalism, the formation of a nation-state (whether liberal or Marxist) and national identity (1996: 17).

Polemical Writings

Bookchin, by his own admission, was a polemical writer, passionately concerned to defend the revolutionary socialist tradition. He had therefore a reputation – especially among neo-Marxists, deep ecologists and anarchoprimitivists – of being harshly polemical, abrasive, scathing, scornful, even ‘venomous’ in his critiques. People often forget the scholarship behind Bookchin’s work, and fail to understand that his critiques have a political and not a personal intent. Apart from *Listen, Marxist!* (which is a trenchant critique of Marxist socialism), two political tracts are especially responsible for giving Bookchin a reputation for being rigid, unrelentingly dogmatic and sectarian, vituperative and generally dismissive towards those with whom he disagrees. It is a reputation that is said to be damaging to his legacy (Barry 2001: 245; Kovel 2002: 179). These two tracts are the polemical essay ‘Social Ecology Versus Deep Ecology’ (1987), Bookchin’s address to a gathering of radical greens at Amherst in June, 1987; and *Social Anarchism or Lifestyle Anarchism* (1995c), a piece that expresses Bookchin’s sheer exasperation with regard to the bourgeois, mystical and atavistic tendencies of much contemporary anarchism. I’ll discuss each in turn.

‘Social Ecology Versus Deep Ecology’ is a highly polemical and acerbic critique of the deep ecology movement, with Bookchin challenging most of its basic tenets. The critique is focused on the writings of Bill Devall and George Sessions, whose book on *Deep Ecology* (1985) had recently been published, as well as on the views expressed by two leading figures associated with Earth First!, David Foreman and Christopher Manes. Later I will discuss Bookchin’s critique, specifically his rejection of the mystical ecology, neo-Malthusian doctrines, anti-rationalism and even misanthropy that for Bookchin seemed to be inherent in the deep ecology movement.

Social Anarchism or Lifestyle Anarchism is essentially a defence of libertarian socialism. It offers a critique of four contemporary anarchists who, although extremely diverse in the form of anarchism they espouse, all embrace an extreme form of latter-day anarcho-individualism. This Bookchin describes as ‘lifestyle anarchism’.

For instance, L. Susan Brown (1993) offers a theory of ‘existential individualism’ which has, Bookchin argues, a very hazy commitment to anarchocommunism (1995c: 13–17; see Brown’s response 1996). In contrast, there is the self-defined poetic terrorist and ontological anarchist Hakim Bey

(1985). Bey's writings on the 'temporary autonomous zone' Bookchin rightly suggests are a form of narcissistic anarchism which offers a bizarre mix of postmodern nihilism, an arrogant dismissal of radical politics, a pettybourgeois paean to the Nietzschean 'free spirit' and an advocacy of mysticism and occultism, all expressed in the most pretentious and obscurantist blather (1995c: 20–26). Finally, Bookchin offers some searching criticisms of the eco-primitivists David Watson (George Bradford), a leading theorist of the anarchist collective Fifth Estate and John Zerzan, who both repudiate civilization and technology (1995c: 28–60).

The stridency and harshness with which Bookchin critiqued the bourgeois individualism and eco-primitivism of the lifestyle anarchists, particularly the allusions he continually made to Nietzsche, Heidegger and the reactionary German romanticism of the nineteenth century – which fed into national socialist ideology – inevitably led to an equally harsh reaction. This reaction is exemplified in two books aimed directly at Bookchin's work: Bob Black's *Anarchy After Leftism* (1997) and David Watson's *Beyond Bookchin* (1996). Although both books seek to vilify and disparage Bookchin's work, and are full of distortions and complete misrepresentations of social ecology – Bookchin is falsely accused of being a technocrat and a neo-conservative and ungraciously dismissed as a 'grumpy old man' (he was then aged seventyfive) – they nevertheless do *confirm* the substance of Bookchin's own critique. For between them these anarcho-primitivists affirm the bourgeois individualism of Stirner and Nietzsche, denigrate rationalism and embrace instead intuitionism and religious mysticism, defend eco-primitivism and make a cult of technophobia, repudiating civilization in its entirety (which does not stop them writing books!), and propound a subjective idealism that denies the reality of an objective world (Watson 1996; Black 1997).

Reflecting on his polemical exchanges with the anarcho-primitivists and neo-Marxists, Bookchin remarks that his commitment to principles is chastised as 'dogma'; support for revolution over reformism is condemned as 'sectarian'; and any fervent argument or polemic is deemed 'authoritarian' (1999: 167; for a reasoned and careful response to his recent critics, especially David Watson and John Clark (Max Caford) see also pp. 160–240, and Bookchin's 1997 critique of Clark's spiritualist and reformist tendencies).

Subsequently, Bookchin came to express his critique of deep ecology and anarcho-primitivism with less polemics and more substance in his book

Reenchanting Humanity (1995b). He describes this book as a defence of the human spirit against many anti-humanist tendencies – sociobiology, neoprimitivism, technophobia, neo-Malthusianism, mystical ecology and postmodern nihilism. He also, in a series of essays on dialectical naturalism, outlined his own metaphysics, published under the title *The Philosophy of Social Ecology* (1995a).

Postscript

Apart from his harsh polemical writings, Bookchin seems to have been an amiable, generous and very likeable person. As described by Ulrike Heider – who expressed little understanding of Bookchin’s social ecology – Bookchin radiated energy and was a witty raconteur, and as he enjoyed dressing wildly (such as in a Russian peasant shirt): ‘His Bohemian appearance and passionate oratory [gave] him the aura of a charismatic 19th century revolutionary’ (1994: 54).

Living with his partner and colleague Janet Biehl, in a small wooden house in the suburbs of Burlington, Vermont, Bookchin, like Chomsky, was a vibrant lecturer and always ready, as I recall, to debate issues and answer questions.

Leaving aside Bookchin’s political writings – on Marxism, anarchosyndicalism and social anarchism (libertarian municipalism) – as well as his diverse historical studies, I shall in Part 3 focus almost exclusively on his theory of social ecology. In Chapters 18 and 19, I discuss Bookchin’s pioneering work on the ecological crisis, together with his seminal attempt to combine the perspectives of ecology and revolutionary socialism. I then go on to outline Bookchin’s writings on the development of an ecological, decentralized society, and his concept of social ecology (Chapter 20). In Chapter 21 I discuss the deep ecology movement, and then in the following two chapters outline Bookchin’s critique of deep ecology as related to its biocentrism and misanthropy (Chapter 22) and its neo-Malthusian tendencies and reformist politics (Chapter 23). In Chapter 24 I describe Bookchin’s philosophy of social ecology, dialectical naturalism, and conclude by examining Bookchin’s critique of postmodernism and his defence of the Enlightenment tradition.

The Environmental Crisis and Eco-Anarchism

The year 1962 has been seen by many as marking the beginning of the ecology movement, for that year saw the publication of Rachel Carson's classic study *Silent Spring*. The book had, in spite of its vital impact, a rather narrow focus, highlighting only the problematic nature of synthetic pesticides, and their adverse social and ecological consequences, although Carson was not against chemical pesticides per se (1962: 11). She called for a more balanced ecological approach, so that we could find a way both to manage insect pests, and also to protect ourselves and the environment (see Lear 1998 for Carson's biography).

Much less well-known is the fact that Murray Bookchin, under the pseudonym Lewis Herber, published earlier in that same year a much more substantial and wide-ranging survey of the ecological crisis. Not only that: Bookchin's study, *Our Synthetic Environment* explored the social roots of the ecological crisis and was infused with a radical vision.

The Crisis

In that book, Bookchin is of the opinion that modern capitalism has the power to destroy on a scale that is quite unprecedented in human history, and that this power is increasingly being used in a way that is creating havoc upon the entire world of organic life, and its material basis. The ecological crisis is therefore, for Bookchin, intrinsically linked to the capitalist mode of production, and the essence of the crisis is that it is literally 'undoing the work of organic evolution' (1980: 36).

Detailed and substantive, *Our Synthetic Environment* in many ways develops the ecological humanism of both Mumford and Dubos who have, in fact, a presence throughout the text. In the book, Bookchin outlines chapter by chapter some of the key aspects of the ecological crisis, especially regarding its impact on human health. The book is not then a plea for wilderness preservation; it rather expresses the need for a radical transformation of our 'synthetic environment', particularly that of North America. I will outline below some of the key aspects

of this ecological crisis as portrayed by Bookchin.

* Modern agricultural practices, being modelled on those of the factory, have led to a simplification of the landscape, and to the overuse of chemical fertilizers and pesticides. This has entailed a serious loss of bird life and other forms of wildlife, through the application of insecticides, particularly DDT (which Carson's book in fact highlighted), to a decline in the nutritional value of food crops, to serious soil erosion, and to a deterioration in the fertility and structure of the soil. As chemical analysis has greatly advanced our knowledge of the soil cosmos, Bookchin is not adverse to the use of chemical fertilizers in specific contexts, but felt that these should 'complement' the nutritional diversity of the soil and not replace organic wastes entirely (1962: 61).

The term 'efficiency', like that of 'pest' is, Bookchin recognizes, a relative one, and long before Schumacher (1973) he was emphasizing that the idea of 'bigness' per se is not necessarily conducive to the efficient and rational use of the land. That large-scale implies efficiency is, Bookchin felt, a serious misconception. Thus in contrast to capitalist agriculture, he advocates a balanced system of food production combining pasture (livestock) and crop lands, one based on highly diversified, small-scale farms. Such small-scale farming is not a utopian vision: it had been practised in many parts of Europe, and could be successfully pursued as a form of 'applied ecology' if a sense of social responsibility replaces blind economic interests and the pursuit of profit (1962: 215). Bookchin laments the fact that not only has modern agriculture become depersonalized and over-industrialized, and obsessed with 'gigantism', but that the management of livestock through 'factory farming' has led to the treatment of animals simply as industrial resources or commodities. There is thus a need to restore, he felt, the 'time honoured' intimacy between humans and their livestock. (For his further views on radical agriculture see Bookchin 1976; on contemporary views of sustainable agriculture see Pretty 2005.)

* Increasing urbanization – which Bookchin critically distinguishes from authentic city life – has generated, he argues, serious ecological problems. These have had a deleterious effect upon the health and well-being of people living in urban areas. They include: the widespread pollution of the atmosphere – Bookchin noting that the London smog of December 1952 claimed at least 4,000 lives; the pollution of the rivers and waterways; and the emotional stress that is associated with urban modes of work which has led to an increase in chronic illnesses – given the frustrations, economic insecurity and drudgery associated

with modern industrial work (1962: 77–85). Contemporary conditions of urban and industrial life have, Bookchin suggests, citing Dubos, introduced a new spectrum of environmental hazards such as to induce almost apocalyptic forebodings. Bookchin thus contrasts the modern metropolis with that of early forms of urban life, for the medieval city was situated within an agricultural matrix, and life in these cities was certainly more leisurely and relaxed (Bookchin draws on Mumford's work on the culture of cities here). He thus concludes that the metropolis 'lacks nearly all the humanizing features of early urban life' – as reflected in the medieval and Renaissance towns (1962: 64–65).

* With the development of an urban industrial society the production of food has become, Bookchin argues, a complex, industrial enterprise. This has involved the increasing use of chemicals in agriculture, particularly toxic pesticides such as DDT, the development of growth hormones and antibiotics in livestock production, and the use of chemical additives in the preparation and processing of food. More than 3,000 chemicals, Bookchin notes, are used in the production and distribution of commercial food products. The fact that a chemical may be technologically *useful* does not imply that it is biologically *safe* or even desirable. Chemical additives do not necessarily enhance the quality of food, and often have deleterious consequences, leading to food allergies and an increase in such diseases as cancer. Food technology, Bookchin concludes, has in fact taken a wrong turn, and is yet another factor imperilling human health and well-being (1962: 111–120). The tendency of Americans to eat more processed and synthetic foods, such as soft drinks, sugary snacks and so-called 'junk foods', has led, Bookchin suggests, to serious problems of obesity, nearly half of the adult population of the United States being overweight (1962: vii, x). The problem of course has worsened since Bookchin wrote these prescient notes on the deterioration of the American diet.

* One issue that particularly concerns Bookchin is the importance of environmental factors on the incidence of cancer. Many specialists, of course, tend to hold the view that cancer is primarily caused by genetic factors or by the ageing process, and thus advocate controlling the disease by means of surgery, chemical therapy or radiology. Bookchin, however, puts an emphasis on environmental factors in the causation of the disease, and thus the importance of cancer prevention, as well as stressing the relevance of emotional and personality factors. He notes the high incidence of cancer in the United States – around 16–25 per cent – and the fact that, like tuberculosis, the disease most frequently occurs among the urban poor. Drawing on the important work of

Hans Selye (1956), Bookchin also affirms the crucial importance of emotional stress as a disease factor. But two agents in particular are examined in some depth, as they are undoubtedly related to cancer – tobacco and the ionizing radiation associated with nuclear power. Bookchin was one of the first to stress, drawing on the then available scientific research, that there is a close link between tobacco smoking and the incidence of lung cancer (1962: 143–153). He was equally critical of the health implications of the radioactive fallout from nuclear weapons testing, especially its long-term consequences through the contamination of air, water and food, and in causing leukaemia and other forms of cancer (1962: 175–187).

Such are Bookchin's seminal thoughts on the ecological crisis. It is of interest that he does not mention, unlike Dubos, the issue of population numbers. In the conclusion of *Our Synthetic Environment*, Bookchin offers some thoughts on 'decentralization', feeling that modern agriculture has become over-industrialized, and the contemporary metropolis is at virtual breaking point – psychologically, economically and biologically. It is therefore imperative to reduce both technology and the environment to a 'human scale', to recreate a 'synthetic' environment that would restore a long-term balance between humans and the natural world. There could be no return to a more 'primitive' or tribal mode of existence, which urban people often tend to 'idealize'. This option is not even necessary. For the use of farm machinery does not conflict with sound agricultural practices; automobiles, aircraft, electrical power and electronic devices can solve most of the problems of transportation and communication; and industry and urban living are not incompatible with a 'more agrarian, more natural environment'. The material conditions are available, Bookchin concludes, for a new type of human community: 'One which constitutes neither a complete return to the past nor a suburban accommodation to the present'. It is, therefore, no longer fanciful to envisage a future human environment in terms of a decentralized, moderately-sized city, which combines within its orbit local industry and agriculture, and which makes the maximum use of local energy sources such as wind power, solar energy and hydroelectric power. A new form of 'decentralized community' needs to be created, Bookchin argues, one that puts an emphasis on organic agriculture and urban regionalism, and thus achieves some kind of lasting equilibrium between human society and the natural world (1962: 241–244). It is significant that Bookchin concludes the book by quoting the closing lines of Mumford's *The Culture of Cities*, with regard to the need to rebuild a new form of society.

From his earliest writings Bookchin is adamant that the ecological crisis – the changing spectrum of disease, soil deterioration, low-quality food, urban breakdown, chemical food additives, environmental pollution – is inherent in ‘bourgeois society’: industrial capitalism. Thus the environmental crisis stems not merely from greed ‘but from a market-oriented system in which everything is reduced to a commodity, in which everyone is reduced to a mere buyer and seller, and in which every economic dynamic centres on capital accumulation. Hence the prevailing society is inherently antiecological’ (1962: xxxiii).

Recently, the spiritualist Marxist Joel Kovel, in what has been described as a highly original text, *The Enemy of Nature* (2002), argues that capitalism is the driving force behind the ecological crisis. Surprisingly, he fails to acknowledge that Bookchin had fervently advocated this same thesis over some thirty years! Under modern capitalism, Bookchin writes:

The entire planet is being reduced to a factory and nature to mere ‘resources’ for reaping extravagant profits. This tendency promotes industrial growth on a scale far beyond the authentic material needs of society, and it systematically fosters irrational ‘needs’ to consume equally irrational products.

(1962: xxxii)

The ecology crisis therefore has its roots firmly in the capitalist mode of production and Bookchin suggests that it is somewhat superficial to interpret the present crisis as due to the greed or moral delinquency of a few large corporations – as implied by Barry Commoner (1972). Capitalism itself is the ‘efficient cause’, as Kovel was later to express it, of the ecological crisis. It follows that Bookchin is extremely critical of those ecologists who tend to locate the ecological crisis in technology and population growth, thereby divesting it of its ‘explosive social content’ (1962: lvi).

To meet the challenges of the environmental crisis implies neither a return to Neolithic technology, nor the ‘mindless depreciation’ of technology as such; rather it entails the creation of an ecological society with a decentralized economy and a technology restored to a human scale. There have been many critiques and debates on Bookchin’s attitude to modern technology (e.g. Watson 1996, 1998; Higgs 1998). Technology is clearly of importance in Bookchin’s vision of a future ecological society, for he is convinced that productive and communication technology will be needed in any future society in order to free

humanity from toil and material uncertainties. He therefore attempts to steer a path between a technocratic approach to social life, with technology conjoined to capitalism and geared to profit rather than human need, and technophobia, the wholesale and ‘mindless’ rejection of technology, as advocated by eco-primitivists like Watson and Zerzan. Bookchin has offered a reasoned critique of contemporary technophobia (1995b: 148–171, 1999: 173–186), and has even described himself as ‘practically a Luddite’ (Chase 1991: 35).

Bookchin summarizes his own mode of thought, as expressed in *Our Synthetic Environment*, as ‘ecological in its natural outlook, libertarian in its social perspectives, and utopian in its ideals’ (1962: lxxiii). He steadfastly retained this radical vision for the remainder of his life, while others, such as James Burnham and Daniel Cohn-Bendit have abandoned their early radicalism for liberal politics.

Like Mumford and Dubos, Bookchin understood by the term ‘ecology’, not simply a scientific discipline or a pragmatic technique, but rather as referring to a ‘broad, philosophical, almost spiritual outlook toward humanity’s relationship to the natural world’ (1962: xv). More on this below.

Books on human ecology and on the environmental crisis are now commonplace, and ecological issues and problems are at the forefront of contemporary political debates. It is thus difficult to understand how innovative, stimulating and important were the writings of Bookchin, along with those of Barry Commoner (1972), E.F. Schumacher (1973), and of course Rene Dubos, in developing an ecological critique of industrial capitalism during the postwar years. Bookchin recalls that his suggestions that chemicalized agriculture, nuclear energy, ever-increasing urbanization, pesticides and food additives were indeed harmful and deleterious to human well-being were viewed as almost ‘heresy’ in the 1960s. This was because Bookchin’s ideas were so antithetical to the ideology of mindless growth and the technocratic ideal of ‘progress’ that was then embraced by the status quo – an ideology that is unfortunately still with us and rampant (1962: xiii).

In his reflections on the publication of *Our Synthetic Environment*, Bookchin was later to suggest that his advocacy of organic agriculture was rather novel at the time, though not of course exclusive to Bookchin, as was his call for alternative forms of energy. Acknowledging the seminal importance of Rachel Carson’s book *Silent Spring* Bookchin also recognized that Carson was an

established nature writer with a fluent, poetic writing style. She therefore captured the imagination of the wider public, and so her book completely swamped whatever readership Bookchin might have attained. Nevertheless, it must be stressed that Carson focused mainly on the dangers of pesticides and is primarily interested in their impact on bird life, while Bookchin's study offers a far more wide-ranging and radical critique. As Bookchin put it, he ran 'the whole gamut of what was wrong with our society from an ecological viewpoint', and specifically related it to the capitalist mode of production (1999: 53–54). *Our Synthetic Environment* therefore has an enduring value.

Ecology and Revolutionary Anarchism

Two years after the publication of *Our Synthetic Environment* Bookchin wrote an essay entitled 'Ecology and Revolutionary Thought'. Many, including Bookchin himself, have seen this essay as a kind of manifesto heralding the development of a form of ecological anarchism, to which Bookchin gave the name 'social ecology'.

In almost every period of history since the Renaissance the development of social thought has been heavily influenced, Bookchin recalls, by the prevailing science and its associated philosophy. Thus at the time of Copernicus and Galileo, astronomy and mechanistic science influenced the prevailing outlook, and this gave rise to a critical rationalism that was both naturalistic and humanistic. During the eighteenth century, the Enlightenment, reinforced by developments in mechanics and mathematics, generated a wealth of liberatory ideas which culminated in the French Revolution and its call for liberty, solidarity and equality. The Enlightenment particularly challenged religious dogma and political absolutism and brought a new appreciation of sensory perception and the claims of human reason. The Victorian era, in turn, was shaken to its foundations by evolutionary theories in biology, by Marx's contributions to political economy and by the development of the social sciences and psychoanalysis (Bookchin 1971: 57, 1982: 20).

In our time, Bookchin intimates, both modern science and philosophy have lost their critical edge, and have tended to become 'handmaidens' of the established social order – capitalism. But there is one science, Bookchin claims, that is intrinsically critical, and which may yet help us to restore a form of human association that expresses a 'lasting balance' with the natural world, and that is the science of ecology. The term 'ecology' was first coined a century ago by the

German biologist Ernst Haeckel, and was defined as ‘the study of the relations of the organism to its environment, organic and inorganic’ (1905: 42).

Narrowly conceived ecology tends to be reduced to biometrics, and to a statistical analysis of animal populations, or to a study of food chains. But as humans are intrinsically a part of nature, ecology, broadly conceived, refers not only to the balance and integrity of the biosphere as an end itself, but to humanity’s relationship with the natural world (Bookchin 1980: 59). Ecology, for Bookchin, therefore always implies a *social* ecology, as it did for Mumford and Dubos, but Bookchin expresses a much more radical utopian vision.

Ecology, for Bookchin, is both a critical and a restorative science, and with regard to the first dimension, it clearly demonstrates that ‘the totality of the natural world – nature viewed in all its aspects, cycles and interrelationships – cancels out all human pretensions to mastery over the planet’ (1971: 59). Humans are thus never able to conquer or dominate nature, and the great wastelands of the Mediterranean region, which had once been thriving agricultural areas with a diverse flora, are now historical reminders of nature’s revenge against human parasitism and pretensions. But such ancient examples of human despoliation of the natural environment were essentially local in scale, and were, Bookchin argues, precisely *examples* of humanity’s potential for destruction and nothing more. Humanity, Bookchin rhetorically suggests, ‘could be described as a highly destructive parasite who threatens to destroy his host – the natural world – and eventually himself ’ (1971: 61). But humans are not intrinsically parasitic, and Bookchin notes that they have often made remarkable improvements to the natural ecology of a region. As examples he cites, following Dubos, the European peasantry’s remarkable reworking of the landscape over many centuries of cultivation, and the achievements of the Inca agriculturalists in terracing the Andean mountains during pre-Columbian times (1971: 59).

The suggestion that Bookchin considers humanity to be a ‘curse on natural evolution’ or to be inherently a ‘destructive parasite’ on earth, is to completely misunderstand or misinterpret his work (cf. Zimmerman 1994: 171; Watson 1996: 18). For Bookchin makes it clear that the current ‘parasitism’ has social causes, and that the imbalances that humans have produced in the natural world are ‘caused by the imbalances [they have] produced in the social world’ (1971: 62). The task of social ecology, he writes, is to reveal the factors ‘that have rendered many human beings into parasites on the world of life rather than

active partners in organic evolution’ (1989: 32). And the crucial factor, for Bookchin, which has caused this parasitism and the degradation of nature, is global capitalism, not human nature (1999: 211).

While the destruction and despoliation of nature in the past tended to be local or regional, since the time of the Industrial Revolution, and particularly since the Second World War, ‘human parasitism’ has become extensive and massive in scope, and on a global scale. The critical aspect of ecology lies precisely in exposing the nature of the present ecological crisis, and in the manifesto-essay ‘Ecology and Revolutionary Thought’ (1971: 57–82) Bookchin devotes several pages to outlining the scope and inherent dangers of the environmental crisis.

In his subsequent writings, whether manifestos, political tracts or more nuanced philosophical discussions, Bookchin contrives to reiterate the fact that capitalist society has attained a power to destroy that is unprecedented in human history and has become a ‘terrifying menace’ to the very integrity of life on earth (1980: 35). Both contemporary urbanization and industrial agriculture are dangerously ‘oversimplifying’ the environment, and the despoliation of the earth, Bookchin stresses, is global in scope. The growing blanket of carbon dioxide in the atmosphere, for example, caused by industrial production and the burning of fossil fuels (coal and oil), is likely to lead – and Bookchin was writing this some forty years ago – to more destructive storm patterns, and eventually to the melting of the polar icecaps, and thus rising sea levels and the inundation of many low-lying coastal areas.

Many American waterways have become so polluted with toxic chemicals that it is a euphemism, Bookchin suggests, to describe them as lakes and rivers (1971: 60). He makes two essential points that he was continually to reaffirm in his later writings. The first is that humanity, or rather that section of humanity that is responsible for upholding the capitalist mode of production, is essentially ‘undoing the work of organic evolution’ (1971: 67). As he was to write: ‘The exploitation and pollution of the earth has damaged not only the integrity of the atmosphere, climate, water resources, soil, flora and fauna of specific regions, but also the basic natural cycles on which all living things depend’ (1982: 19).

Secondly, acknowledging and stressing that the ecological crisis is being produced, not by technology or population growth, but rather by capitalism, Bookchin also argues that the *ideology* of dominating nature stems directly from the *real* domination of humans by humans. As he put it: ‘The notion that man

must dominate nature emerges directly from the domination of man by man' (1971: 63, 1999: 56). The social crisis and the plundering of the human spirit by commodity relations is therefore, Bookchin writes, matched 'by the plundering of the earth by capital' (1971: 63). The reconstructive aspect of ecology, for Bookchin, stems from the fact that the principles of ecology, and the need for 'harmonizing' the relationship between humanity and nature, indicate the need also for establishing an ecological society. This would, he felt, necessarily imply one based on anarchist principles.

In the past, Bookchin writes, anarchists were often viewed as social misfits, or as hopeless visionaries filled with nostalgia for the peasant village or the medieval commune. Their advocacy of a decentralized, stateless society, and for a humanistic community at one with nature, tended to be regarded simply as romantic longings, out of touch with contemporary social reality. The opponents of anarchism – liberals, conservatives and authoritarian socialists – stress that they alone are the voices of 'historic reality' (Bookchin 1971: 69). But Bookchin argues that the main features of contemporary society, specifically the capitalist mode of production with its rationalized system of mass production and assembly-line systems of labour organization, and the modern nation-state with its bureaucratic apparatus – have reached their limit and have become entirely regressive and oppressive. Not only have they eroded the human spirit and undermined community solidarity, they are also regressive from an ecological standpoint – threatening the viability of the planet and its organic life (1971: 69).

Thus Bookchin concludes that the anarchist vision – once dismissed as utopian and impractical – has now become not only desirable but almost an imperative if humanity is to meet the challenges of the ecological crisis. This vision expresses many important concepts that Bookchin considers crucial to the development of a future ecological society – a balanced decentralized community in harmony with nature, organic agriculture, a humanistic, liberatory technology, and a face-to-face democracy (Bookchin mentioning in his conclusions the ancient Athenian polis and its assembly, *ekklesia*). Bookchin's tempered enthusiasm for the Athenian polis and direct democracy, and his thoughts on libertarian municipalism were explored in depth in his later writings (1992a, 1992b; see also Biehl 1998a).

What Bookchin particularly stressed was that an ecological society has to be a decentralized one. Industrial agriculture must therefore give way to organic farming or husbandry, based on moderately-sized farms; energy sources must be

decentralized and localized, and based mainly on a 'mosaic' of solar energy, wind turbines and hydro-electric power; the megalopolis and its 'sprawling urban belts' must be replaced by small, decentralized city communities – thus countering the harmful effects of gasoline-driven motor-vehicles; and, finally, industrial technology must be reduced to a human scale (1971: 72–75).

Drawing on the ecological writings of Charles Elton (1953), Bookchin emphasizes the importance of such ecological principles as wholeness, balance and organic differentiation – noting that ecological stability is a function of variety and diversity, and that ever-increasing unity is achieved by growing differentiation. An approximate to a balanced and harmonious' (1971: 80). Bookchin was later to admit that given the dangerous use of chemical pesticides in agriculture during the 1960s – and they are still being widely used – he was obliged to stress the importance of ecological stability (1982: lvi). In his later writings on ecology he emphasizes the critical significance of diversity, complexity and spontaneity. It is important to note, however, that although Bookchin emphasizes the inherent continuity between nature and human social life, he never viewed this relationship as implying any form of reduction, still less one of identity.

In his conclusion to the essay, Bookchin suggests that if ever an ecological society comes into being, it would entail a respect for the organic interrelationships on which social life depends, combine what is best in both agrarian and urban life, foster both communal solidarity and personal development, provide craftsmanship and thus eliminate onerous toil, and give scope to both unrepressed sensuality and self-directed spirituality (1971: 78). It would thus express a 'creative interplay' between the individual and the social group, the community and the local environment, and between humanity and nature. Like Dubos, Bookchin therefore emphasizes the need to develop a sense of unity and harmony, as well as to respect and foster diversity and difference – natural, cultural and personal (1971: 81–82). anarchist community, he therefore suggests, would

'clearly definable ecosystem; it would be diversified,

Toward an Ecological Society

If we are to survive an ecological catastrophe, Bookchin fervently writes, ‘We must decentralize, restore bioregional forms of production and food cultivation, diversify our technologies, scale them to human dimensions, and establish face-to-face forms of democracy’ (1980: 27). Bookchin never seems to have deviated from these essential premises. A committed environmental activist, particularly in his early years, he drafted in 1969 a manifesto for the radical collective Ecology Action East. It is of interest that this manifesto was published in a path-breaking anthology on environmental ethics, along with several other seminal essays, including Lynn White Jr on *The Historical Roots of our Ecologic Crisis* (1967) and René Dubos’ *A Theology of the Earth* (see Barbour 1973: 243–252).

The manifesto, entitled *The Power to Destroy, the Power to Create* (see Bookchin 1980: 35–54) begins with a succinct outline of the ecological crisis, Bookchin summarizing the main themes of *Our Synthetic Environment*. In almost every region, Bookchin writes, ‘air is being befouled, waterways polluted, soil washed away, the land desiccated, and wildlife destroyed. Coastal areas and even the depths of the sea are not immune to widespread pollution’ (1980: 35). More crucial, the basic biological cycles, relating to carbon and nitrogen, are being seriously disturbed, threatening the integrity of life on earth. Equally significant, given his later and important writings on the reclamation of the city, Bookchin, following Mumford and Dubos, catalogues the adverse effects of expanding urbanization. These include: the increasing impact of background noise; the congestion of highways and city streets by motor traffic; the psychological anomie and stress created by dense concentrations of the human population; and the immense accumulations of garbage, refuse, sewage and industrial wastes. Finally, there is the scarring of the earth ‘by real estate speculators, mining and lumber barons, and highway construction bureaucrats’. Bookchin reiterates that contemporary capitalist society is ‘literally undoing the work of organic evolution’ (1980: 35–36).

The manifesto then examines the ‘roots’ of the ecological crisis. Technology has always been seen as the main culprit with regard to this. But Bookchin suggests

that not only has technology been used to subvert the environment but also to improve it, and that the Neolithic revolution, a period of harmony between humanity and nature, was above all a technological one. It was a period that brought humanity such useful arts as weaving, metallurgy, pottery, agriculture, the domestication of animals, the discovery of the wheel, and many other key elements of civilized life. Our future responsibilities, Bookchin concludes, do not imply the wholesale rejection of technology, rather the need 'to separate the promise of technology – its creative potential – from the capacity of technology to destroy' (1980: 36–37).

Bookchin is equally critical of the thesis that the ecological crisis has its roots in population growth, a thesis that was then widely acclaimed in the United States. It was a theory particularly associated with Paul Ehrlich, whose best-selling book *The Population Bomb* (1968) ran through thirteen printings in only two years. This neo-Malthusian tract, Bookchin notes, had a 'staggering popularity' and gave rise to many imitators (1994a: 45). It was later embraced with enthusiasm by several deep ecologists (see below). Bookchin acknowledged, given the present economic, political and social conditions, that in time humanity would come to overpopulate the earth. Yet there is something obscure, he reflects, about the fact that 'population growth' is given such primacy and urgency in a nation 'which has little more than seven per cent of the world's population, wastefully devours more than fifty per cent of the world's resources, and is currently engaged in the depopulation of an oriental people who have lived for centuries in sensitive balance with its environment' (1980: 37) – Bookchin alluding to the American war in Vietnam. What the peoples of Asia, Africa, Latin America and the South Pacific need, Bookchin asserts, is not advice on contraceptive devices nor Professor Ehrlich's recommendations on population control, but rather a 'fair return' on the immense resources that are being plundered from their lands by the peoples of North America and Europe (1980: 37). In Chapter 23 I shall discuss Bookchin's critical thoughts on the neoMalthusian doctrines of the deep ecologists.

Finally, Bookchin denies that the roots of the ecological crisis can be simply put down to the growing 'affluence' of American people, or, for that matter, of European peoples generally. He responds to this suggestion with fervour:

Can we blame working people for using cars when the logistics of American society were deliberately structured by General Motors and the energy industry around highways? . . . can we blame blacks, Hispanic peoples and other minority

groups for reaching out to own television sets, appliances and clothing when all the basic material means of life were denied to them for generations?

(1980: 39)

The manifesto makes it clear that the roots of the contemporary ecological crisis are social and have a long history, relating to the emergence of hierarchy and systems of domination within human society, and specifically to 'our profit-oriented bourgeois society' (1980: 41). The only viable response to this crisis is therefore the development of new social forms – the creation of a libertarian, ecologically-oriented society that establishes a new balance with nature, one based on a reverence for life (1980: 39). Given the enormous productivity of modern technology, such a society, Bookchin argues, could offer the possibility of material abundance and herald an era of free time with minimal toil. But for Bookchin 'material abundance' did not imply wasteful, mindless 'affluence' based on false needs, but rather a 'sufficiency in food, clothing, shelter and the basic comforts of life with a minimum of toil that will permit everyone in society – not a specialized elite – to directly manage social affairs' (1980: 41). This would entail, for Bookchin, a social revolution, and the elimination of all forms of domination and class exploitation – a revolution that would not only encompass political institutions and economic relations, but 'consciousness, life style, erotic desires and our interpretation of the meaning of life' (1980: 43). Thus, only by eradicating all forms of hierarchy would the 'root causes' of the ecological crisis be eliminated. Isolated reforms, focusing specifically on environmental problems, would in themselves be insufficient; they only serve, Bookchin suggests, as a 'safety valve' for the existing system of natural and human exploitation (1980: 43).

This leads Bookchin to make an important distinction between 'environmentalism' and social ecology. This distinction was introduced some three years before Arne Naess (1973) made his well-known (and similar) distinction between shallow and deep ecology – although deep ecology lacks any substantive social theory, and is essentially, as Warwick Fox (1990) describes it, a form of transpersonal ecology. In contrast, social ecology seeks to resolve the ecological crisis, and the human exploitation of nature, by eliminating all forms of human domination (capitalist exploitation, state power, hierarchical structures). 'Environmentalism' merely involved 'tinkering' with existing institutions, social relations, technologies and current ideological values. It reflects an instrumental or technocratic sensibility (not an ecological sensibility)

and treats the natural world as essentially 'passive' and as an inventory of resources for human use (1980: 77). Environmentalism, for Bookchin, is thus a synonym for 'environmental engineering' and is satisfied with the goal of using natural resources efficiently and prudently, with minimum harm to human health and with due regard to the conservation of raw materials for future use (1980: 107). Environmentalism thus implies a mechanistic, instrumental outlook, and reformist politics. The manifesto thus recommends that all ecology groups will eschew all appeals to international and nation-state institutions – the 'very criminals and political bodies that have materially contributed to the ecological crisis of our time' (1980: 46). It advocates, instead, direct action, direct democracy and the organization of affinity groups, not parliamentary politics (1980: 81).

Bookchin emphasizes the importance of social action and revolutionary politics. This does not imply, however, a disregard for environmental issues – even though Bookchin was falsely accused by Arne Naess and his deep ecology acolytes of being disinterested in immediate environmental problems. But as the manifesto declares:

Ecology Action East supports *every effort* to conserve the environment: to eliminate nuclear power plants and weapons, to preserve clean air and water, to limit the use of pesticides and food additives, to reduce vehicular traffic in streets and on highways, to make cities more wholesome physically, to prevent radioactive wastes from seeping into the environment, to guard and expand wilderness areas and domains for wildlife, to defend animal species from human depredation.

(1980: 43-44)

Thus Bookchin called for action on every kind of environmental problem that people in the United States confronted, including the need to protect and expand wilderness areas and wildlife habitats, and to oppose cruelty to animals.

Bookchin was not opposed to the conservation of the 'wilderness', only critical of deep ecologists' complete disregard of humanized landscapes, and their tendency to overemphasize the wilderness, identifying it with nature. But the manifesto also issued a timely warning, namely, that such 'delaying tactics' do not constitute a definite solution to the conflict that exists between the present social order – capitalism – and the natural world. 'Nor can such delaying tactics arrest the overwhelming momentum of existing society for destruction'; what

was needed was a radical transformation of this society, and our way of looking at the world – a new ecological consciousness (1980: 44, 1994a: 16).

The manifesto concludes with the call to challenge all forms of hierarchy and domination, specifically corporate capitalism and the bureaucratic state, and to develop through direct action and educational activities a libertarian movement. This implies a commitment to a decentralized society and bioregionalism (1980: 52–53). In his discussion of affinity groups and direct action, Bookchin emphasizes the need to recover a new sense of personality or selfhood, and writes: ‘A truly free society does not deny selfhood but rather supports it, liberates it, and actualizes it in the belief that everyone is competent to manage society, not merely an ‘elect’ of experts and self-styled men of genius’ (1980: 48). Self-activity and self-management are thus seen as intrinsic aspects of a libertarian, decentralized society.

With the development of an ecological society Bookchin felt that the great ‘splits’ opened up by hierarchical society during the last four centuries could now be healed and overcome. The antagonistic divisions, for example, between humanity and nature, town and country, intellectual and physical activity, individual and society, reason and emotion, could, he suggests, all be transcended (1980: 46).

The revolution that Bookchin and Ecology Action East envisaged not only encompasses an end to economic exploitation, but of all forms of hierarchy and domination. It thus sought the liberation of women, of gay people, of children, of African-American and colonial peoples, and of working people in all occupations – as part of a growing struggle against industrial capitalism, the bureaucratic state and all institutions of social domination. It would also entail a ‘lifestyle revolution’, the development of new forms of consciousness and experience, particularly a new ecological sensibility (1980: 44).

Writing during the 1970s and sensing that the workers’ movement, or what he describes as ‘proletarian socialism’, had lost its revolutionary impetus, Bookchin was particularly heartened by the emergence during this period of three radical social movements: ecology, feminism and community control. All three went beyond the primary concerns of the socialist movement, which essentially focused on economic issues, and on the abolition of wage labour and capital, and thus on class struggle and material exploitation – although it is crucial to note that Bookchin never doubted the importance of class struggles, class analysis

and the need to eradicate economic exploitation (Biehl 1998a: 61). But these three movements, he felt, had shattered the silence left by socialism, and he describes them as ‘vital, rebellious and richly promising’ (1980: 14). Bookchin’s primary focus is on the ecology movement, which he creatively sought to link with social anarchism, and he thus devotes little discussion to the feminist movement. Though supporting this movement, he felt that the best critiques and the most reconstructive notions on feminism had come already from women, as well as some of the best scholarship in anthropology and social theory (1980: 22).

What particularly concerned Bookchin was that he recognized that within the ecology, feminist and community movements there were deep *internal* conflicts, and what he sought to recover and develop was the libertarian potential of each of these movements. For the issues these movements raised had far-reaching social implications – the need to achieve a totally new, non-hierarchical society in which ‘the domination of nature by man, of women by man, and of society by the state is completely abolished’ (1980: 14).

With respect to the ecology movement there were, Bookchin argues, two major obstacles inhibiting its development in a truly libertarian direction. These were neo-Marxism, which sought to reduce the concept of freedom to economic categories, and the ‘managerial radicals’ who sought to compromise the movement, linking it to reformist politics.

Neo-Marxism, particularly as expressed in the writings of Andre ´ Gorz, is viewed by Bookchin as little more than fashionable ‘eclecticism’ that reduced Herbert Marcuse’s more theoretical insights to ‘pop culture’. Gorz’s wellknown *Ecology as Politics* (1980) Bookchin dismisses rather harshly as ‘ecological verbiage’ and ‘politically incoherent’, for it combines an advocacy of decentralized politics with social democratic concepts of mass political parties and state institutions (1980: 17). In *Farewell to the Working Class* (1982), Gorz even advocates a ‘dual society’ consisting of local autonomy and human-scale technology as ‘convivial tools’ (Illich 1973), alongside the equal advocacy of high technology and state planning! In the epilogue to *Ecology as Politics*, Gorz seems to acclaim Jerry Brown, then governor of California, along with Mao Zedong, Ho Chi Minh, Fritz Schumacher and the Buddha as ‘neo-anarchists’ in the American ecology movement. Bizarre! Bookchin’s suggestion that Gorz’s neo-Marxism is little more than crude eclecticism and ‘ideological dilettantism’ is close to the mark. Equating socialism with Marxism, Bookchin goes on to

make a radical contrast between *social ecology* – ‘with its naturalism, its anarchistic logic of decentralization, its emphasis on humanly scaled alternative technologies and its non-hierarchical institutions’ and *socialism* (that is Marxist socialism) – ‘with its typically anti-naturalism, its political logic of centralization, its emphasis on high technology, and its bureaucratic institutions’. Gorz, in his ‘confusion’, Bookchin concludes, seems to advocate both alternatives (1980: 18).

But Bookchin is equally critical of the degree to which the ecology movement was being appropriated by technocrats, especially by what Andrew Kopkind had described as ‘managerial radicals’ – political opportunists who emphasize techniques rather than principles, spectacles rather than committed action, and who tend to operate *within* the political system rather than opposing it (1980: 80). In 1980, Bookchin drafted an open letter to the ecology movement expressing how profoundly disturbed he was by ‘a widespread technocratic mentality and political opportunism that threatens to replace social ecology by a new form of social engineering’ (1980: 79). His concerns have been justified, for in recent decades the ecology movement has been more or less commandeered by the development of a transnational class of environmental technocrats or ‘ecocrats’ – as Wolfgang Sachs describes them. Seeing themselves as indispensable in the present ecological crisis, and embracing the renewable trinity of ‘modernity’ – capital, bureaucracy and science – such ecocrats have assumed the role as ecomanagers of the planet Earth (Sachs 1999: 67–68). Although acknowledging the need to build ecological societies ‘with less government and less professional dominancy’, Sachs, compared with Bookchin, is bereft of any radical vision, other than to advocate cosmopolitan localism, social regeneration, unilateral self-restraint and dialogue between cultures (1999: 107).

Always critical of ‘environmentalism’, with its technocratic thrust, electoral politics, and social and environmental engineering, Bookchin also continually affirms that the only adequate response to the ecological crisis – as well as to the social crisis under capitalism – is the development of a new ecological society, based on mutual aid, a people’s technology adapted to human scale, decentralized communities and libertarian non-hierarchical relations that would not only yield a new harmony between humans but also between humanity and nature (1980: 75). Such an ecological future would imply the development of libertarian practices based on affinity groups, direct democracy and direct action, not on electoral politics or the formation of political parties. Always affirming

his commitment to the anarchist tradition, which he felt had prevented him from sliding into academicism, neoMarxism and ultimately reformism, Bookchin saw his early writings as providing an ethical holism, rooted in objective values that emerge from a creative synthesis of ecology and anarchism (1980: 31).

Bookchin's social anarchism and his advocacy of a decentralized ecological society, has been the subject of numerous critiques, by deep ecologists (e.g. Eckersley 1992), by eco-communitarian liberals (e.g. Clark 1998) and by neo-Marxists (Kovel 2002). For Kovel going 'beyond Bookchin' entails an unholy alliance between Marxism and mysticism (spiritualism), and his advocacy of an 'eco-socialist transformation' involves electoral politics, the 'seizure of state power' by some 'green' political party, and some form of market economy. His colleague John Clark has a similar vision of an ecocommunitarian realpolitik; namely some form of representative government with a coercive legal system, administrative bodies that dictate social policy, and a market economy. Robyn Eckersley likewise, as with other deep ecologists, has little to offer other than conventional politics – the liberal democratic state and a market economy (capitalism), which for Bookchin, of course, is at the root of the ecological crisis! Repudiating Marxism, mysticism, electoral politics and the market economy, it is small wonder that Bookchin dismissed his many critics as backsliding into political reformism. In turn they dismiss Bookchin's social anarchism as 'utopian', and suggest some accommodation – as with the above critics – with the 'real' world of state politics and capitalism. (See Bookchin 1997 and Graham 2000 on Clark's repudiation of social anarchism and his embrace of reformist politics. Graham also offers a salutary critique of Bookchin and his critics, with regard to the tone of their intellectual debates which tends to be acrimonious, contemptuous and hostile.)

The Concept of Social Ecology

Always a polemical writer, Murray Bookchin admits that the writing of his magisterial study *The Ecology of Freedom* (1982), considered by many to be his magnum opus, was largely motivated by the need to offer a coherent alternative to the technocratic, reformist and single-issue environmentalism that held centre stage during the 1970s. In fact, as already noted, this form of environmentalism still enjoys a pre-eminence at the present time, especially among a growing class of transnational environmental technocrats, who continue to serve the needs of global capitalism. The concept of ‘sustainable development’ encapsulates the reformist politics of this eco-technocratic elite (Worster 1993: 142–155; Sachs 1999).

As an alternative to this narrow, pragmatic and reformist environmentalism, Bookchin sought to develop a coherent, synthetic philosophy and social theory that was holistic, radical and libertarian and to which he gave the name ‘social ecology’. It has to be recognized that the author of *The Ecology of Freedom* was not some detached academic philosopher, ensconced in an elite university, but a radical scholar who had been active for several decades as an eco-anarchist, in fighting the construction of nuclear power plants, the pollution of the environment and the chemical adulteration of food, as well as being engaged from his earliest years in radical politics.

As with his early writings, Bookchin, in *The Ecology of Freedom*, acknowledges and highlights the social and ecological crisis that confronts Western civilization, especially since the end of the Second World War. The ‘modern crisis’, as Bookchin describes it, has however many facets, and there is the threat not only of ecological degradation – discussed above – but of the outright extinction of the human species, given the possibility of thermonuclear immolation. The Cold War period saw the stockpiling of nuclear weapons and such a staggering expansion of the American military establishment that even a conservative liberal like Robert Nisbet (1988) could express extreme disquiet. Given the ethos of mutual fear and paranoia generated in the exchanges between the two superpowers, the United States and the Soviet Union, and the increasing use of

‘terror’ and military action as instruments of American foreign policy, the terrifying prospect of a thermonuclear disaster was clearly on the social horizon. The possible outcome of such a nuclear war was, Bookchin felt, too ghastly to contemplate (1982: 18, 1986a: 99–102).

Technology and scientific knowledge, which at an early period had held such promise, and which claimed to emancipate humanity from the age-old burdens of ignorance and superstition, had in recent years turned against humanity itself. Apart from some medical advances, science and technology under capitalism had become, Bookchin argues, almost demonic. Focused on war, the art of killing humans, and on ‘resource exploitation’ – which was leading to a serious ecological crisis – science and technology had become increasingly problematic. They were, Bookchin writes, leading to ‘barbarism rather than civilization, darkness rather than enlightenment, destruction rather than creation’. There was therefore, Bookchin argues, a need for a searching analysis of what is generally called ‘civilization’, as well as a need to re-affirm the ideals of the Enlightenment (1986a: 108–111).

There was also, Bookchin suggests, increasing evidence of a social breakdown under industrial capitalism – widespread alienation and a serious decay in community life. Such alienation was reflected in the counter-culture movement of the 1960s. This movement sought new forms of communal living, embraced alternative lifestyles, sexual liberation and artistic creativity, and in many ways challenged conventional values. Even so, its outlook was more mystical than political, and it never seriously challenged the social arrangements or political structures of the capitalist system (1982: 18, 1999: 70–71).

But Bookchin emphasizes not only the historical degradation of international relations during the Cold War period, and the increasing breakdown of established society, but the historic degradation of the ecological relationships between humanity and nature (discussed above). Environmental problems he acknowledged were not unique to our times, but the massive destruction of the natural world since the end of the Second World War had no precedent in human history, threatening human destiny as a life form as well as the future of the biosphere (1982: 19, 1986a: 105–107).

What Bookchin describes as the ‘accursed’ aspects of contemporary Western ‘civilization’ – its bloodless gospel of technocracy, egotism, competition, mass culture, instrumental rationalism and, above all, systems of domination and

hierarchy – threatened therefore the very integrity of life on earth (1986a: 100). Bookchin sums up the ‘modern crisis’ when he writes:

The certainty that technology and science would improve the human condition is mocked by the proliferation of nuclear weapons, by massive hunger in the Third World, and by poverty in the First World. The fervent belief that liberty would triumph over tyranny is belied by the growing centralization of states everywhere, and the disempowerment of people by bureaucracies, police forces, and sophisticated surveillance techniques.

(1989: 20)

Fears of ecological catastrophe, a moving tide of nationalism and racism, chronic warfare, economic uncertainty and a lack of human solidarity, all led, Bookchin argues, to a widespread loss of faith in the ability of humans to live at peace with one another, and to care for their fellow beings and other lifeforms. We are witnessing, he writes, a wholesale repudiation of ‘civilization’, along with reason, science and technology, and even the denigration of human beings themselves, who are viewed by some deep ecologists as an ‘accursed’ form of life which threatens the integrity of the planet Earth. There is thus a crucial need to re-enchant humanity in order to create a truly human and ecological civilization (1989: 20–21).

Bookchin’s vision of social ecology was indeed an ambitious project, as he himself admits – to outline a philosophy of dialectical naturalism, to describe the contours of natural and social evolution, particularly the emergence of hierarchy and all forms of domination, an in depth analysis of contemporary social and ecological problems, and finally, to present a radical utopian vision of an alternative ecological society. But at the heart of his project is a concern to explore, like Peter Kropotkin and Thomas Huxley, humanity’s place in natural evolution. For humans are not, Bookchin contends, spiritual beings created by some deity, nor the manifestation of a cosmic or world spirit, but rather the product, along with their societies, of natural evolution.

There is therefore no dualism between humanity and nature; there never has been outside of religious ideologies. For humans are structured anatomically and physiologically by natural evolution – by nature – to interact with non-human nature productively, by means of tools, machines and their very capacity to labour, in order to create their own means of livelihood. Following an organic

philosophical tradition that goes back to Aristotle and Hegel (discussed below), and the radical social theorists of the nineteenth century, Bookchin emphasizes that humanity's interaction or 'metabolism' with the material world not only provides human beings with their means of life, enabling them to maintain themselves materially, but also *defines* them – as conscious and psychologically complex beings.

Like Mumford and Dubos, Bookchin stresses that the very humanness of *Homo sapiens* and the kinds of society they create 'stem in large measure from their efforts to rework nonhuman nature into a habitat where they can live the "good life" and hopefully contribute fruitfully to the enhancement of natural evolution' (1982: xix).

The concept of 'nature' Bookchin recognized, had been subjected to many diverse and often contradictory meanings. He notes that Lovejoy and Boas, in their classic study of primitivism in antiquity, had enumerated over sixty definitions of nature, ranging from 'birth' to 'matter'. They particularly stressed that 'nature' was often used as a generic designation for what was considered to be the valid norm for human social life (1935: 11–13, Appendix).

Though not a devotee of one-line definitions, the multiplicity of ways in which the word 'nature' had been defined tended, Bookchin felt, only to lead to confusion, especially when supporters of deep ecology employed the term narrowly to signify only a pristine 'wilderness'. In its broadest sense, the term 'natural' implies *everything* that exists, and although this materialist definition may be valid, Bookchin suggests that this is, in fact, too limited; for nature from a social and ecological perspective refers to an evolutionary *process* or *development*. Bookchin thus defines nature as 'a cumulative evolutionary process from the inanimate to the animate and ultimately the social, however differentiated this process may be' (1982: xx). The notion that Bookchin views nature as a 'social construct', as suggested by Christopher Manes (1990: 156), is quite bizarre, and indicates a woeful misunderstanding of Bookchin's dialectical *naturalism*.

Like Rene ´ Dubos, Bookchin recognizes and emphasizes the essential paradox of human existence, in that human beings 'are *of* the biotic world as organisms, mammals and primates, yet they are also *apart* from it as creatures that produce that vast array of cultural artefacts and associations that we call second nature' (1962: xxiv).

Following a long tradition that goes back to the beginnings of Western philosophy, and was especially well expressed by the Roman scholar Cicero, Bookchin makes a distinction (not a dichotomy) between ‘first nature’, the realm of non-human nature that pre-exists the emergence of humans, and ‘second nature’, the realm of human artefacts, and of social and cultural life. In his primer *Remaking Society*, Bookchin, like Dubos, quotes the well-known phrase from Cicero’s *De Natura Decorum*: ‘by the use of our hands, we bring into being within the realm of nature, a second nature for ourselves’ (1989: 25, Cicero 1972: 185).

Bookchin insists that human social life is ‘*within* the realm of nature’ and thus always has a naturalistic dimension. The emergence of humanity as a life form and of human sociocultural and symbolic life is therefore, for Bookchin, a ‘natural fact’, society having its origins in ‘the biology of human socialization’ (1989: 26).

In contrast with much social theory and ecological thought, Bookchin suggests that social ecology is almost alone in focusing on both natural *and* social evolution, and in seeing these two developments of ‘nature-as-a-whole’ as a highly creative process. He is thus opposed not only to dualistic theories that tend to radically bifurcate or separate the natural from the social (as in much sociological theory and the humanities) but also to all forms of reductionism, whether this implies the reduction of social life to biology (as in sociobiology and neo-Malthusian doctrines) or the collapse of all distinctions into a universal spiritual ‘oneness’. As I shall discuss later, Bookchin is particularly critical of the devotees of spiritual or ‘mystical ecology’ (which is an oxymoron), who often disdain the social problems of humanity and second nature, and tend to venerate first nature as a ‘wilderness’, even tending towards a crass misanthropy, viewing humans in dualistic fashion as a ‘cancer’ on the biosphere (1982: xxi).

Explicitly advocating a form of evolutionary or ecological ‘holism’ (1982: 3), Bookchin, citing E.A. Gutkind, suggests that social ecology is not only about critiquing the split between humanity and nature but also radically transcending it for ‘the goal of social ecology is wholeness’ (Gutkind 1954: 9). Long before trendy anthropologists, Bookchin was suggesting a ‘relational epistemology’ in which relationships within ecological or social communities are conceived ‘holistically’ – that is, in terms of the mutual interdependence of their components. As he put it, social ecology ‘seeks to unravel the forms and patterns of interrelationships that give intelligibility to a community, be it natural or

social' (1982: 23).

But 'holism', the emphasis on relationships and wholeness, is for Bookchin intrinsically linked with an evolutionary or developmental perspective. Thus he writes that history is in fact as important as form or structure, and that to a large extent 'the history of a phenomenon is the phenomenon itself'. Evolution therefore is within us, as well as around us, and is a part of 'the very nature of our being' (1982: 23).

Given his own background and his close association with Germany, Bookchin is very much aware that concepts such as 'wholeness' or 'totality', or even community, have 'perilous nuances' for a generation that experienced fascism and other totalitarian ideologies. He thus clearly distinguishes the social ecological concept of 'wholeness' from both the spiritualist and totalitarian conceptions of 'oneness', which are in fact closely related. The ecology movement is in fact beleaguered, he writes, by mystics and spiritualists who tend to collapse all phases of natural and human development into a universal 'oneness', akin to 'the night in which . . . all cows are black' (Hegel [1807] 1977: 9). Fond of quoting Hegel's joking remark on Schelling's mystical idealism and his conception of the Absolute, Bookchin emphasizes that the ecological concept of 'wholeness' must not be confused with the spectral and spiritualist 'oneness' (or 'Self ') that entails a 'cosmic dissolution into a structureless nirvana'. Nature for Bookchin is an evolutionary process, a richly articulated structure with a history and an internal logic of its own (1982: 23).

Neither religion nor a spiritualistic vision of experience, Bookchin contends, have any place in an ecological worldview, and he continually criticizes the crude reductionism of the mystical ecologists who tend to ignore the rich differentiations that biotic evolution has produced, given their emphasis on a spiritual unity. It is quite absurd, he suggests, to invoke deities or mystical forces to explain the evolution of human life and sociality. Social ecology, in contrast, offers a dialectical evolutionary approach that puts an emphasis on development and emergence, on variety and differentiation, and on the phasing of first into second nature 'as a shared and meaningful process' (1982: xxi). But unlike many ecologists, Bookchin restricts the term 'social' to the domain of second nature, viewing society and social institutions as the 'exclusive province of humans' (1982: xxi).

The evolution of human consciousness and sociality inevitably led human beings

to make a crucial distinction between themselves and first nature. Indeed, as earlier indicated, the distinction between the organism (inner) and its environment (outer) is a primary characteristic of all sentient life forms, and with humans this entails a separation of the existential self from the 'other' – first nature. Only with this contrast, Bookchin writes, could the selfidentity and self-consciousness of humanity emerge. But this distinction or duality between humanity and nature does not imply a 'dualism', still less its abrogation into a mystical 'oneness' in which the human self is absorbed into a vacuous 'cosmic self' or 'world spirit' (1982: xlv). This sense of 'apartness' or 'otherness' is, Bookchin emphasizes, one of the basic 'facts' of human life, if only because natural evolution has produced a life form – humanity – whose very specificity and uniqueness, he suggests, is premised on a conscious sense of separation between human life and nature. Yet this separation does not entail 'opposition' or 'domination'; it rather takes a dialectical form, as differentiation and complementarity. A respect and love of first nature, and a growing empathy for other life forms, does not have to imply the mystification of nature as expressed in John Muir's transcendentalism, Starhawk's (1979) magical arts or by other fervent acolytes of some earthGoddess religion or neo-paganism. For as Bookchin writes:

natural evolution, given its marvellous creativity, its growing subjectivity, and its capacity of innovation, respect and love for its own attributes. We do not have to create ideological artefacts like deities – female or male – or use magical arts to appreciate nature as a wondrous phenomenon – including such wonders as the human mind and humanity's capacity to act morally and self-consciously.

(1982: il) fecundity, its deserves our

Such love and appreciation of first nature and its life forms should properly stem from a clear-sighted and aesthetic naturalism not from some religious metaphysic that projects anthropomorphic beings into the biotic world as spiritual agents, immanent or otherwise. For Bookchin a spiritual outlook implies an ecological sensibility, 'a new feeling of care and love for all forms of life', and a feeling of responsibility for and an 'atonement with the natural world' (1990: 126). It does not imply the embrace of spiritualism.

Bookchin's ecological holism is a process-oriented dialectical approach to nature and social life. He thus envisages by the term 'wholeness' not an immutable homogeneity or spiritual unity, but rather a 'dynamic unity of diversity'. This

notion, derived from Hegel, forms, Bookchin argues, one of the central tenets of social ecology. Emphasizing that the thrust of natural evolution has been towards increasing complexity and biotic diversity, Bookchin notes that many of the early life forms – such as the simple algae that mark the beginnings of plant life, and the simple invertebrates that indicate the beginnings of animal life – still exist on earth in large numbers. Indeed, they comprise, along with bacteria, the preconditions of more complex organic beings, providing sustenance and sources of decomposition, as well as regulating the earth's atmosphere. Given this ever-changing and ever-expanding diversity of living forms, the dictum 'respect for nature' has, Bookchin holds, very concrete implications, namely as a curb on human hubris: 'To assume that our knowledge of this complex, richly textured, and perpetually changing natural kaleidoscope of life-forms lends itself to a degree of "mastery" that allows us free rein in manipulating the biosphere is sheer foolishness' (1982: 25).

Thus 'working with nature' always entails a recognition of and a need to foster the biotic diversity that emerges from the spontaneous development of natural phenomena. And, following the ecologist Charles Elton (1953: 101), this inevitably implies, Bookchin felt, some degree of management of the natural world. But the suggestion by the deep ecologist Robyn Eckersley (1989) that Bookchin's social ecology implies that humans have the role of 'planetary directors' on earth, and that Bookchin's organic philosophy is a self-serving and arrogant form of anthropocentrism, seems to me a rather misleading and prejudiced interpretation of his thought.

Emphasizing the need to recognize the essential continuities between the natural world and social life, Bookchin affirms that nature constitutes the 'ground' and the precondition for the development of society. The relationship between humans and nature is therefore dialectical and complementary, for not only does humanity have an impact on the natural world, in transforming it, but nature also places 'its imprint on the human world and transforms it' (1982: 32). Social life is not therefore some autonomous realm completely independent of nature, as implied by many sociologists and cultural anthropologists, nor can social and cultural life simply be reduced to biology, as suggested by many sociobiologists. Advocating a more balanced approach Bookchin writes that: 'we do not have to accept the brute tenets of sociobiology that link us crudely to nature at one extreme or the naïve tenets of sociology that cleave us sharply from nature at the other extreme' (1982: 37).

The need to bring a sense of history into nature, as well as into our understanding of social life; an emphasis that human history can never disengage itself completely from nature; and a clear acknowledgement that spontaneity, mutualism, diversity and complexity are key factors in both natural and social evolution – these were some of the important elements of Bookchin's social ecology. They should serve to check, he writes, the human hubris that is often expressed by both Marxists socialists (especially in their conception of a vanguard party) and by a growing band of environmental technocrats (1982: 34–35). Social ecology therefore implies the development of an organic philosophy that does not abandon analysis for mysticism, nor dialectical reason for religious faith and intuition (1982: 39).

Making a clear distinction between animal and plant communities and human societies, Bookchin is extremely sceptical of the widespread tendency among ethologists and sociobiologists to make anthropomorphic judgements about non-human animals – for example, describing predators as 'savage' beasts, or the widespread use of such terms as 'hierarchy', 'caste' or 'dominance' to depict animal communities or behaviour. The employment of such terms not only denies the integrity of nature, but tends to justify human social hierarchies by interpreting them as essential features of a 'natural order' (1982: 27).

There is a widespread tendency in Western culture, Bookchin suggests, to see the realm of first nature as one of harsh 'necessity'. Nature is thus defined as a domain of 'natural law', of unrelenting lawfulness and compulsion. It is an 'image' of nature that goes back to antiquity and to the Gilgamesh myth of the Sumerians, which depicts nature as essentially hostile to human life. This image of the natural world, Bookchin writes, sees nature as 'stingy', 'intractable', 'cruel', 'competitive', 'blind' and 'mute' – a seemingly demonic 'realm of necessity' that opposes human striving 'for freedom and self-realization' (1986a: 50).

There are two responses or attitudes, Bookchin notes, to this image of nature: either 'humanity' must yield with a religious fervour (or for some deep ecologists with an ecological humility) towards the 'laws of nature'; or it must subjugate or 'conquer' nature by means of technology and instrumental reason. This second attitude towards nature is reflected in the classical economics of the nineteenth century, which literally defined itself as the study of the relationship between 'scarce resources' – read 'stingy' nature, Bookchin suggests – and the 'unlimited needs' of humanity. Hence the depiction of economics as the 'dismal

science'. The social sciences and the humanities, by tending to posit an 'unbridgeable gulf' between human social life and the natural world, tend to support this image of nature, as does psychology, particularly psychoanalysis, which focuses on the control of an unruly 'inner nature' by means of the rational faculty and the imperatives imposed by social life.

But it is Marxism, Bookchin argues, that most radically secularized this mythical image of an intractable nature as a 'realm of necessity' that needs to be 'subdued' by humans in order to engender a new realm of freedom. Marx, as interpreted by Bookchin, turned human history into a 'heroic epic' in which the human domination of first nature, through creative labour, was the means whereby humanity attained the 'good life' and an end to class exploitation (1982: xxvii, 1986a: 50–51, on Marx's 'Promethean' view of history see also Benton 1989; Foster 2000: 134–135).

Bookchin's own conception of nature is fundamentally different from both the biblical doctrine of the 'Fall' and the Marxist notion of nature as a realm of 'necessity'. Interestingly, Bookchin links this latter notion to the Promethean myth, which depicts history as a drama in which 'man' heroically defies and expresses his own agency against a 'brutally hostile and unyielding natural world' (1986a: 50). Later, like Dubos, Bookchin came to insist on a much more positive interpretation of the Promethean myth, as expressing human creative agency, not simply the technological domination of nature inherent in liberal ideology (Biehl 1997: 225; see also Foster 1997: 149–150).

What distinguishes social ecology, Bookchin affirms, is that it completely negates the harsh image of nature, as depicted by Cartesian rationalists, political economists and other liberal scholars, as well as by Marxists. It does so not by dissolving the social into the natural like the social Darwinists and contemporary sociobiologists, nor by imparting mystical attributes to nature, that place it beyond human comprehension and rational insight, as do the mystical ecologists (see below); rather social ecology seeks to 'radicalize' nature by interpreting it as an evolutionary process, and as a 'participatory' realm of interactive life forms, of which humans are an intrinsic part. The most outstanding characteristics of first nature, Bookchin argues, are its 'fecundity, creativity and directiveness', marked by a complementarity that renders the natural world the grounding for an ethics of freedom rather than domination (1986a: 55). Drawing on the pioneering work of Peter Kropotkin (1902), and the writings of William Trager (1970) and Lynn Margulis (1981), Bookchin emphasizes that the natural

world is characterized more by mutual co-operation and symbiosis than by competition, by increasingly fecund contexts of plant–animal communities in which organisms express agency, and do not passively ‘fit’ environmental constraints. Bookchin thus concludes that life is ‘active, interactive, procreative, relational and contextual . . . ever striving and always producing new forms’ (1986a: 56–57). Complementarity, mutualism, diversity and wholeness are thus key notions of Bookchin’s concept of social ecology.

In the Epilogue of *The Ecology of Freedom* Bookchin affirms that ‘matter’ or substance has inherent self-organizing properties, which are no less valid than the ‘mass and motion’ that are attributed to it by Newtonian physics (1982: 357). Thus he concludes that nature:

exhibits a self-evolving patterning, a ‘grain’, so to speak, that is implicitly ethical. Mutualism, freedom and subjectivity are not strictly human values or concerns. They appear, however germinally, in larger cosmic and organic processes that require no Aristotelian God to motivate them, no Hegelian spirit to vitalize them.

(1982: 365)

Thus freedom, subjectivity and an ethic of complementarity are seen by Bookchin to be inherent in nature. I discuss Bookchin’s philosophy of nature in more detail in Chapter 24, but now turn now to his important critique of deep ecology.

The Deep Ecology Movement

The term ‘deep ecology’ was coined by the Norwegian philosopher Arne Naess in an article entitled ‘The Shallow and the Deep: Long Range Ecology Movements’ (1973). A keen mountaineer, Naess had spent most of his life teaching philosophy in academia, his particular interests being semantics and the philosophy of science. In the 1930s he was closely associated with the logical positivists, a philosophy that stands in stark contrast to his later pantheistic views. Even so, his writings, as expressed in *Ecology, Community and Lifestyle* (1989) have a decidedly mechanistic tenor, and his mode of presentation – abstract, normative and geometric – is often obfuscating, exhibiting what is best described as ‘quantitative mysticism’ (Morris 1993b: 42). Having published important studies of Gandhi, on the theory of nonviolent protest, and of Spinoza’s ethics, the influence of these two contrasting figures is clearly apparent in his later work.

In his well-known article – which has since been reprinted in several anthologies on the deep ecology movement (e.g. Drengson and Inoue 1995; Sessions 1995) – Naess made a distinction between shallow and deep ecology. Shallow ecology denoted the fight against pollution and resource depletion and is focused on reformist measures, and on the ‘health and affluence’ of people in so-called developed countries, Naess conflating Western economic affluence with the reasonable concerns of people in Europe and North America for their health and well-being. Shallow ecology is thus synonymous with what Bookchin had described as ‘environmentalism’, and a similar distinction had, in fact, earlier been made by Barry Commoner, Leo Marx and René Dubos, as well as by Bookchin (1995b: 88).

Deep ecology involves, according to Naess, the following principles: biospherical egalitarianism; an emphasis on diversity and symbiosis; a fight against class exploitation as well as against pollution and resource depletion; a relational epistemology involving complexity and internal relations; and local autonomy and decentralization (Naess 1973). Apart from the explicit stress on ‘biospherical egalitarianism’ it has to be noted that none of these principles were

either novel or original. Much of this work, as Bookchin remarks, was ‘old hat’ (1995b: 88). The concept of ‘biospherical egalitarianism’ which, as we shall see, Bookchin was staunchly to critique, was for Naess a principle or intuition, not a doctrine, and he qualifies it strongly by suggesting that any ‘realistic practice’ – i.e. the very maintenance of human life – must necessitate some killing, exploitation and suppression. Indeed, if the principle was followed to the letter, the human species would fast become extinct.

During the following decade Naess’ ideas on ‘deep ecology’ were enthusiastically embraced by many academic philosophers in the United States and Australia, as well as by several environmental activists such as Dave Foreman, a co-founder of Earth First!, and John Seed, who was at the forefront of grassroots efforts to protect the Australian rainforests. Among the eco-philosophers who have been prominent in the deep ecology movement mention may be made of the following: Michael Zimmerman (1981), Neil Evernden (1985), Alan Drengson (1983), Warwick Fox (1990) and Freya Mathews (1991). Many deep ecologists, such as Gary Snyder, Michael Boule and Joanna Macy are practising Buddhists, and Fox notes that virtually all the supporters of deep ecology have a strong interest in spiritual traditions (1990: 277). Equally significant, the deep ecologists, as Fox seems to define them, are largely a group of philosophers, therapists and ‘venerable teachers’ who form a kind of cult fraternity. They regularly meet up at conferences, either on university campuses across the world, or in some pleasant mountain retreat, to exchange ideas. They produce philosophical texts and journals like *The Trumpeter* which support and promote each other’s work. In fact, Bookchin describes the academic followers of deep ecology as a ‘professional coterie’ (1995b: 91).

But the book which in many ways encapsulates the deep ecology movement, and did much to popularize the writings of Naess and the ideas of the movement generally, was a seminal text by Bill Devall and George Sessions. Entitled *Deep Ecology: Living as if Nature Mattered* (1985), the book is dedicated to Arne Naess and the poet Gary Snyder, who are viewed by Sessions as the two most influential exponents of deep ecology.

According to Sessions and Devall, the philosophical roots of deep ecology are to be found in the social criticism and ecocentrism of such writers as Henry Thoreau, John Muir, D.H. Lawrence and Robinson Jeffers, as well as in the writings of that ‘maverick historian’ Lewis Mumford. Indeed, the literary naturalist Edward Abbey, an important influence on the journal *Earth First!*

suggested that Mumford had provided the best critique available of contemporary military-industrial society and deserved the Nobel prize for literature. Abbey was a professor of English and meant it (Davis 1991: 156). But of particular importance in the emergence of deep ecology were the writings of Lynn White Jr, Rachel Carson and Aldo Leopold, who are viewed, along with Naess, as attempting to describe a deeper and more 'spiritual' approach to nature (Devall and Sessions 1985: 65; Sessions 1995: ix).

Deep ecology is defined as a form of 'ecological consciousness' – though invariably and quite misleadingly equated with a spiritualist worldview – that stands in sharp contrast to the dominant, anthropocentric worldview of technocratic-industrial societies which regard humans 'as isolated and fundamentally separate from the rest of nature, as superior to, and in charge of, the rest of creation' (Devall and Sessions 1985: 65). Such an anthropocentric perspective, it must be stressed, derives not from the evolutionary humanism of such nineteenth-century scholars as Darwin and Kropotkin, but from orthodox Christianity, as expressed by St Augustine, as well as of course being characteristic of other religious traditions. Lynn White, as we noted, rightly saw an essential continuity between orthodox, theistic Christianity and the ethos of industrial capitalism.

The two key ideas of deep ecology are 'biocentric equality' and 'selfrealization'. But Devall and Sessions' book also includes a set of 'basic principles' of deep ecology. These were drawn up, in 1984, by Sessions and Arne Naess. Many have seen them as constituting the 'manifesto' of the deep ecology movement, and they include the following:

1. The well-being and flourishing of human and non-human life on earth have intrinsic value in themselves, independent of the usefulness of the non-human world for human purposes.
2. Richness and diversity of life forms contributes to the realization of these values and are also values in themselves.
3. Humans have no right to reduce this richness and diversity except to satisfy *vital* needs.
4. The flourishing of human life and culture is compatible with a substantial decrease of the human population. The flourishing of non-human life *requires* such a decrease.

The need for basic changes in the economic, technological and ideological structures of contemporary society is therefore acknowledged (Devall and Sessions 1985: 70).

As sources and exemplars of deep ecology, Devall and Sessions offer a rather bizarre and motley collection of philosophies, religious traditions and ecotopian visions, many of which indicate quite incompatible cosmologies and ontological perspectives. They include: the perennial philosophy of Aldous Huxley, a form of spiritual monism; the ecological sensibility and religious traditions (animism) of tribal peoples; Eastern spiritual traditions, specifically Taoism and Buddhism; the Christian tradition of St Francis and Giordano Bruno; the philosophies of Spinoza, Heidegger and Whitehead; and Gandhi's advocacy of *Advaita Vedanta*; as well as the writings of Wendell Berry, David Brower, Dolores La Chapelle, Thomas Berry and Paul Shepard, and the 'new physics' – as interpreted by Fritjof Capra! What is of interest is that Bookchin is interpreted as within the deep ecology fold, as a key proponent of the 'minority tradition' (along with Kropotkin), in advocating a decentralized form of politics and an 'ecological consciousness' that challenges the anthropocentrism of reformist environmentalism – shallow ecology (Devall and Sessions 1985: 2–3). Bookchin's seminal essay 'Toward a Philosophy of Nature' was included in Michael Tobias' anthology entitled *Deep Ecology* (1985), and Devall and Sessions include Bookchin's *The Ecology of Freedom* in an annotated list of the most important books on deep ecology (Davis 1991: 159). Bill Devall was also to express his admiration for the courage, concern and integrity of Bookchin, who had, along with Lewis Mumford and Paul Goodman, 'defended the organic society and the tradition of communalism and local self-sufficiency against the imperialism of modernity and urbanism' (1988: 91).

Throughout the 1980s and particularly while writing *The Ecology of Freedom*, Bookchin became increasingly disturbed by the emergence within the ecology movement (as well as in the feminist movement) of a form of 'mystical ecology' – for him little more than a motley collection of atavistic religious cults. Appearing under such terms as 'mother Goddess religion' or 'ecological animism' or more generally as 'deep ecology', these forms of spiritual ecology clearly had affinities with the New Age romanticism that was then becoming pervasive in Western culture. In *The Ecology of Freedom* there is no mention of either mystical or deep ecology. But in 1987, motivated and appalled by the increasing number of misanthropic statements by deep ecology enthusiasts, Bookchin launched into a strident, and some would suggest a 'vitriolic' attack on

the deep ecology movement and its basic premises. The occasion was the first national gathering of American greens at Amherst, Massachusetts, held in June of that year. Bookchin was privileged to be a keynote speaker. The gist of his address to the gathering of around 2,000 green activists was published that same year under the title 'Social Ecology Versus Deep Ecology: A Challenge for the Ecology Movement'.

In his introduction to *Remaking Society* (1989) Bookchin recalls a conversation he had at the Amherst gathering with a deep ecology enthusiast from California. This tall, robust young man talked to Bookchin in a vague way about the need for humans to 'obey' the 'laws of nature' and to 'humbly subjugate' themselves to the imperatives of nature. The use of such terms as 'obey', 'subjugate' and the 'laws of nature' reminded Bookchin that the very same language was also used by the 'modern acolytes of the cold deities of science' – the environmental technocrats – in describing the relationship of humans to nature. For the technocrats contend that 'man' must ruthlessly control and manage nature in 'his' own interests, and, as Bookchin was to note, the use of the term 'man' is quite appropriate in the present context of a civilization that still dreams of acquiring 'absolute mastery over nature' (Bookchin 1982: 19; cf. Adorno and Horkheimer 1973: 248). What the Californian greens and the advocates of positivistic science have in common is that they both share the vocabulary of domination and subjugation (Bookchin 1989: 8). Bookchin therefore concludes that this acolyte of deep ecology had merely reversed the unsavoury hierarchical relationship between human beings and nature by turning humans themselves into objects of domination: 'just as his scientistic opponents (usually big industrialists, financiers, and entrepreneurs in our modern corporate society) turned the world of life, including human beings, into objects of domination' (1989: 9).

In his polemic 'Social Ecology Versus Deep Ecology', Bookchin clearly recognizes not two, but three approaches or tendencies within the environmental movement. The first is the 'environmentalism' of the ecotechnocrats, the 'modern acolytes', as he describes them, of scientism, who seek the domination of nature and treat the natural world simply as a resource for human use, specifically as a source of profit. They express what the deep ecologists describe as anthropocentrism, make a radical dichotomy between humans and nature and view humans as the 'antinatural being par excellence' (Ferry 1995: 93). Bookchin, as we have seen, is highly critical of this form of 'environmentalism'.

The second approach is Bookchin's own social ecology, described earlier, which

he suggests draws its inspiration from such outstanding radical decentralist thinkers as William Morris, Peter Kropotkin and Paul Goodman. It advances a serious challenge to contemporary global capitalism – ‘with its vast hierarchical, sexist, class ruled, statist apparatus and militaristic history’ (1987: 221). And it advances, too, a secular ecological worldview and an ecological sensibility. Despite his critics, Bookchin is not indifferent to spirituality. He interprets this concept however, in terms of the human spirit, and the empathy and aesthetic appreciation that humans express towards nature and towards other life forms. The new spirituality that Bookchin repeatedly calls for is a new ecological sensibility that is naturalistic not supernatural (or spiritualist) in orientation (Chase 1991: 35).

Attempting to balance reason and technology with organic thinking, spirituality, for Bookchin, therefore denotes an organic naturalism and an *ecological* sensibility. He clearly distinguishes such spirituality from spiritualism, and the kind of metaphysics expressed by religious devotees, with their conceptions of God (or the goddess), deities, spirits, angels or fairies, all of which Bookchin views as simply outmoded products of the human imagination. Bookchin admits, like myself, that being a naturalist he has an ‘aversion’ to such spiritualism (1982: xvi, 1994a: 13).

The third approach is that of ‘deep ecology’ which, in the abovementioned article, and in subsequent writings, Bookchin subjected to a harsh critique. For he clearly felt that there is a need to untangle and dissociate social ecology from deep ecology, with its neo-Malthusian tendency, its ecomysticism and its misanthropy and anti-rationalism, while at the same time, he argues, retaining also a critical attitude towards pragmatic environmentalism, and its anthropocentrism and its cost-benefit analyses (1982: xvi).

What troubled Bookchin about the deep ecology movement is that it tended to advocate a new kind of ‘original sin’ in which an undifferentiated ‘humanity’ is seen as a destructive force that threatens the very survival of life on earth. Thus the ecological crisis and ecological problems were not related to *social* life, specifically to capitalist corporations or to the bureaucratic state, or to other forms of social domination, but rather to a collective ‘humanity’, to people generally. They are viewed as overpopulating the earth and thus polluting the environment, devouring its resources and, particularly, destroying wilderness areas. People as a biological species, as a *Homo devastans*, motivated by greed and expressing an anthropocentric ideology, are thus seen as responsible for the

ecological crisis. Thus Bookchin concludes that a mythic ‘humanity’ has been created by the deep ecologists, irrespective of whether we are talking about women, oppressed ethnic minorities, peoples of the developing world or poor people in the First World, and everybody is brought into complicity with the powerful corporate elites that are largely responsible for the environmental crisis. Thus the deep ecologists tend to obscure the *social* roots of ecological problems (1989: 9–10).

That deep ecology, despite its social rhetoric, tends to view the ecological crisis as primarily related to ideological factors – anthropocentrism – and to population issues, means that it has no real sense that this crisis is ultimately rooted in society. This intellectual position stems, Bookchin argues, largely from the fact that most deep ecologists are privileged, white, male academics, although the movement does include such women scholars as Joanna Macy and Dolores La Chapelle, and anti-humanist, and machomountain men like Dave Foreman of Earth First!. One anthology of deep ecology writings certainly supports Bookchin’s contention (Sessions 1995). Expressing a general disdain for humanity, deep ecologists are thus prone to advancing what Bookchin describes as extreme misanthropic sentiments, although not all deep ecologists are necessarily misanthropic.

Bookchin’s critique of deep ecology is wide-ranging and focuses on several issues – its disorienting eclecticism; its emphasis on biocentric equality, which invariably leads to misanthropy and anti-humanist sentiments; its embrace of spiritualism, which entails an ethic of redemption as well as giving primacy to faith, intuition and ritual over and above reason and human agency; and, finally, its embrace of neo-Malthusianism which obscures the social origins of the ecological crisis, and often leads to authoritarian politics – even to fascism. It is however important to note that Bookchin does not describe all deep ecology enthusiasts as eco-fascists; he only highlights the political dangers of a mystical ecology which, as with the National Socialists in Germany, overemphasizes biocentrism and embraces neo-Malthusian doctrines. I shall discuss each of these issues in the next two chapters but will conclude the present discussion with some remarks on Bookchin’s general views of the deep ecology movement and of the related organization, Earth First!.

With the demise of the New Left and the counter-culture movement during the 1970s, a wave of ‘New Age’ mysticism and occultism erupted in the United States. According to Bookchin this was particularly evident in the ‘sunbelt’

region of California. Describing this region as a ‘mystical zone’, Bookchin argues that this new ideological climate had a profound impact on the emergence of deep ecology and that the movement was therefore to a large extent symptomatic of the experienced in the United States. analgesic’ or soporific for troubled souls, a worldview that was sufficiently shallow but at the same time uplifting, in a culture ‘more at home with Disneyland and Hollywood’ than with radical politics (1995b: 92–93). As he stridently put it in his address to the Amherst gathering: deep ecology has ‘parachuted into our midst quite recently from the sunbelt’s bizarre mix of Hollywood and Disneyland, spiced with homilies from Taoism, Buddhism, spiritualism, reborn Christianity, and, in some cases, eco-Fascism’ (1987: 221). Given the content and crucial influence of Devall’s and Sessions’ text – both these academics were based in California and members of the Sierra cultural malaise that was then being

It provided, he writes, an ‘excellent Club – Bookchin’s emphasis on the Californian ‘sunbelt’ is perhaps understandable. Nevertheless, deep ecologists were quick to point out that Naess was a Norwegian, that many Australian eco-philosophers were at the forefront of the movement, and that Bookchin’s ‘ferocious diatribe’ against deep ecology was motivated by a need to appeal to an East Coast audience, and was largely a ‘product of envy’, given the success of the deep ecology movement, especially among ecological activists associated with Earth First! (Manes 1990: 154–155). (See also Sessions 1995: 290–310 for a useful discussion of the relationship between deep ecology and the New Age movement, though Sessions continues to interpret Bookchin in the most negative fashion as an advocate of the ‘mastery’ of nature.)

Towards ‘Earth First!’ Bookchin is also extremely critical, although not opposed to their radicalism in defending the wilderness. Inspired by the writings of Edward Abbey, a rather cranky, misanthropic and somewhat xenophobic ‘desert anarchist’, Earth First! was a radical environmental movement focused around the journal bearing the same name. Founded in 1980 by Dave Foreman, Howie Wolke and several other environmental activists, Earth First! was based in Tucson, Arizona.

A professor of English at the University of Arizona and an ex-employee of the National Parks service, Edward Abbey wrote a semi-autobiographical collection of essays entitled *Desert Solitaire* (1968) which extolled the wilderness areas (so-called) of the American South West. Seven years later he published a rambling novel *The Monkey Wrench Gang* from which the term ‘monkey-

wrenching' (i.e. ecological sabotage) is derived. The book portrays the activities of a group of desert-lovers and conservation saboteurs who go about destroying bulldozers and advertising billboards, and who even contemplate blowing up the Glen Canyon Dam, thus 'liberating' the Colorado River. Earth First! activists took up the challenge, and soon made the headlines in their attempt to sabotage the operations of timber companies working in forest areas. Abbey's novel in fact became a blueprint for their radical tactics, and in March 1981, Abbey, Foreman and around seventy other activists demonstrated at the Glen Canyon Dam, shouting 'liberate the River'! (Nash 1989: 192). Besides Abbey, the main inspiration and instigator of the Earth First! movement was Dave Foreman, a self-styled 'eco-warrior' who attempted to systematize environmental activism in a book (coauthored with Bill Haywood) entitled *Ecodefense: A Field Guide to Monkeywrenching* (1985). A former aide and supporter of Barry Goldwater, and an employee of the mainstream conservation organization The Wilderness Society, Foreman took to monkey-wrenching after experiencing the frustrations and limitations of political lobbying in Washington. Significantly, Foreman and the Earth First! activists embraced deep ecology as the philosophy of the group and saw Earth First! as the radical wing of the movement for 'wilderness preservation' – a movement that largely took its inspiration, of course, from Thoreau, Muir and Leopold (on Earth First! see Manes 1990: 66–83; Davis 1991; Foreman 1991; on Abbey, see Bishop 1995).

Although acknowledging the importance of eco-defence, Bookchin suggests that most of the activities of Earth First! were largely symbolic and theatrical, and often more a media creation than a serious challenge to the polluters, developers and timber corporations, let alone industrial capitalism. But what Bookchin found particularly troubling was that the most articulate and best-known leaders of Earth First! – specifically Edward Abbey and Dave Foreman – were avowed neo-Malthusians, and even crude misanthropes. In spite of their New Left tactics, and their logo showing the clenched fist, the Earth First! movement advanced no serious social criticism of the status quo. Any involvement with ecological problems other than that of wilderness preservation they dismissed as 'humanistic', for their concern, as Bookchin writes, was not so much the despised human species but rather desert landscapes and their wildlife (1995b: 94). Edward Abbey, for example, in spite of embracing anarchism, specifically that of Proudhon's mutualism, declared that he would 'rather kill a man than a snake' (Bishop 1995: 152), and called for a halt to further immigration into the United States. Suggesting that the United States was a product of 'Northern European civilization', he resented the fact that the country was becoming

‘Latinized’. It might be wise, he wrote, to call a halt ‘to the mass influx of ever more millions of hungry, ignorant, unskilled and culturally – morally – genetically impoverished people’ (Abbey 1988: 43). Bookchin expressed his despair at Abbey’s disregard for human problems and his misanthropy, as well as his xenophobia, if not his implicit racism (1995b: 108).

Let me now specifically turn to Bookchin’s misgivings and criticisms of the deep ecology movement.

Deep Ecology, Biocentrism and Misanthropy

In the introduction to *The Ecology of Freedom*, Bookchin remarks that ‘coherence’ is his favourite word, and that it guides everything he writes and says, for he has always sought to make the events of social life more intelligible and meaningful (1982: 14). It is hardly surprising then that he was extremely critical of the eclecticism of deep ecology, especially as expressed in the writings of Devall and Sessions (1985). For the latter proposed an ‘eclectic hodgepodge’ that embraces the pantheism of Spinoza, Robinson Jeffers, as well as that of Naess; the spiritual monism of Advaita Vedanta and perennial philosophy, which denies the reality of the material world; the Christian theism of St Francis; the religious atheism of the Buddha, who, it is worth noting, rejected the notion of a metaphysical self; mother Goddess religions as espoused by eco-feminists like Starhawk; the animism of tribal peoples; the organic naturalism of Taoism; and, finally, the obscure paganism of the fascist Heidegger. The only thing that these religious traditions have in common is that they all seem to express an opposition to what Gary Snyder describes as the ‘Judaean-Christian-Cartesian view of nature’ (1995: 456). (Even so, a dualistic metaphysic and an anthropocentric ethic, it is worth noting, are not confined to the Judaean-Christian tradition: they are evident also in many other religious traditions, such as neo-platonism, gnosticism, the Bhakti devotionalism of the Hare Krishna cult, some versions of Buddhism – Sangharakshita – as well as, of course, in the technocratic ideology of the devotees of global capitalism and economic growth.)

The deep ecologists’ ‘sloppy admixture’ of different religions and philosophical traditions, Bookchin suggests, is quite unhelpful if not obfuscating. Thus a repulsive reactionary like Thomas Malthus and the neo-Malthusian tradition he produced are celebrated with the same enthusiasm by the deep ecologists as Henry Thoreau, a radical libertarian who fostered a ‘highly humanistic tradition’ (1987: 224). Likewise, Spinoza can hardly be compared with Heidegger, and it is arguable, to say the least, to equate Buddhism and Taoism with Whitehead’s process philosophy, which is a form of panentheism. While Spinoza is an ultra-rationalist – he cannot, Bookchin suggests, by any stretch of the imagination, be

considered biocentric – most of the proto-deep ecologists described by Devall and Sessions are fervent mystics or anti-rationalists (Bookchin 1995b: 95; cf. Fox 1990: 67).

In response to Bookchin's critique of the 'eclecticism' of deep ecology, and his plea for intellectual coherence, deep ecologists falsely accused him of advocating a 'monolithic ideology', insinuating that coherence implied totalitarian politics. The suggestion of postmodernists and deep ecologists that systematic thought and an emphasis on the universal values of the Enlightenment have been responsible for fascism and the wars and genocides of the twentieth century is rather fallacious (Manes 1990: 150; cf. Bronner 2004). Bookchin points to the fact that Hitler and the Nazis were fundamentally *against* the humanistic values of the Enlightenment, were extremely *eclectic* in their philosophical underpinnings, made a cult of biocentrism and embraced their own particular brand of neo-Malthusianism and the philosophy of 'difference'. Anti-rationalism and a denigration of humanity went hand in hand with the holistic organicism of the National Socialists (see Biehl and Staudenmaier 1995: 14-17).

Bookchin is equally critical of the concept of 'biospherical egalitarianism' or biocentrism, to the degree that this concept implies a failure to recognize the unique qualities of the human species and thus the inherent tendency of some deep ecologists to denigrate humanity. According to the ethic of 'biospherical egalitarianism', everything on earth has 'intrinsic value' or 'intrinsic worth', and thus human beings are of no greater (or lesser) value than any other life form, be it wolf, grizzly bear, eagle, locust or fruit fly, or even, for that matter, the smallpox virus. Even the latter, as an 'endangered species', has 'existence value' and thus the right to exist and flourish, even though it might decimate human populations (Ehrenfeld 1978: 209). Deep ecologists like Naess, of course, allow humans the 'right' to exploit and kill other life forms to meet their 'vital needs'. But, as Bookchin writes, this raises the very crucial question of what exactly constitutes human vital needs

– to protect oneself against the smallpox virus or to stop elephants ravaging the crops? (1995b: 89). Bookchin is not against the idea that humans should *not* confer rights or value on other life forms, or even on forests, streams and certain geological formations or landscapes. There may be very good reasons for doing this in an irrational society that has shown so little respect for the natural world, but, Bookchin avers, this should not be used as the basis for denigrating the one life form, human beings, who *alone* are capable of respecting other life forms, and thus of conferring rights on first nature. Insisting that nature in *itself* is not

ethical, and that ‘mother nature’ does not always know best – witness the extinction of the dinosaurs and other life forms – Bookchin affirms that any ‘value’ or ‘rights’ that exist in nature are *conferred* rights, as humans, for better or worse, are the only ethical agents that exist on earth. As he writes:

Human beings may have a deep sense of care, empathy, indeed love for other life-forms, but for them to regard any ethical principle as *inherent* in first nature is as naïve as the medieval practise of judicially trying and hanging captive wolves for their ‘criminal’ behaviour.

(1982: xxxiv)

The natural world, therefore, is never itself ‘cruel’ or ‘kind’ or ‘caring’, ‘good’ or ‘bad’. Arguing against the fact/value dualism of the positivists, Bookchin affirms that first nature may be reasonably regarded as the *ground* for an ecological ethic. This is because nature is an evolutionary process with a tendency towards greater subjectivity. As human beings alone have the capacity to create ethical systems, and to impart value or worth on other life forms, as well as to give a sense of meaning to first nature, Bookchin concludes that humanity is literally the ‘very *embodiment* of value in nature as a whole’ (1982: xxxvii).

Not surprisingly, Bookchin is critical of spiritual monists like Warwick Fox (1984) who argue that there is no ontological divide between humans and the non-human realm. To the contrary, Bookchin contends that there is a real and important distinction between humans and other life forms, noting that only humans can debate whether or not there is such a divide! When deep ecologists like Robyn Eckersley (1989) equate the ‘navigational skills’ of birds with the human capacity for consciousness, language and ethical reasoning, Bookchin suggests that such theorizing leads only to ‘intellectual muddle’ (1995b: 101). The relationship of humanity to first nature, for Bookchin, is therefore neither one of opposition (Cartesian dualism) nor one of identity (spiritual monism) but rather dialectical, a non-hierarchical ‘unity of diversity’ (1982: 5). The suggestion by Eckersley that Bookchin views second nature as a ‘privileged’ domain is misleading; the relationship between nature and human culture is dialectical, reflecting an ethic of ‘complementarity’ or mutualism.

Given the radical and rather scholastic dichotomy that deep ecologists make between anthropocentrism and biocentrism (or ecocentrism), Bookchin’s critique of biocentrism and the concept of ‘intrinsic value’ is falsely interpreted by his

deep ecology critics as implying that he is anthropocentric – that he holds that the world was ‘created’ to meet human needs, and that it exists solely for humans to pillage and plunder without compunction! Bookchin continually emphasizes that he repudiates *both* anthropocentrism and biocentrism, that he does not in fact accept any form of ‘centricity’. Instead, he attempts to look specifically at the evolutionary qualities that characterize various life forms (1999: 119). Although humans may in a sense be superior to other life forms in having more consciousness, and therefore more potential for ethical reasoning, innovation and freedom, this does not imply that they have a licence:

to destroy everything around them, or to be unfeeling about other lifeforms. On the contrary, it places upon humans the responsibility to do something that no other species in the natural world does: to look out for the needs of other creatures, even at times when it may conflict with their own self-interest.

(1999: 118–119)

Critical of both anthropocentrism – the theological notion that humans are the lords of creation and that all other life forms are subordinates – *and* biocentrism, Bookchin advocates what he calls an ‘ethics of complementarity’. This ethics implies a new ecological sensibility that ‘respects other forms of life for their own sake and that responds actively in the form of creative loving and supportive symbiosis’ (Chase 1991: 34). An ethics of complementarity or mutualism, as advocated by Bookchin, opposes any claim that humans have a right to ‘dominate’ first nature – even assuming that this is in fact possible – still less the claim that first nature has been ‘created’ solely to serve human needs. Bookchin therefore places a strong emphasis on an ethics that puts a high premium on promoting a rich diversity of life, one that makes for *wholeness*, for evolutionary and rational *innovation*, as well as for the spontaneity and the *heterogeneity* of life forms (1982: xxxvii). The notion that Bookchin views humanity as seeking to redeem nature from its ‘fallen’ state, or that he (or humanity!) expresses a Faustian ambition to seize control of evolution, or that Bookchin views the relationship between human social life and the natural world as hierarchical (Manes 1990: 160-61) – all these contentions seem to indicate a rather jaundiced, if not wilful, misinterpretation of what Bookchin’s social ecology entails. For his ethics of complementarity aims to transcend the extremes of both anthropocentrism and biocentrism, the latter being the essential ideology of deep ecology and ecomysticism. As products of natural evolution,

humans, Bookchin felt, were thus naturally as well as culturally endowed with capacities that no other life form possesses, enabling them to play a potentially creative role in evolution, to the benefit not only of humans but of all forms of life (1994a: 3).

An uncritical emphasis on biocentrism inevitably leads, Bookchin argues, to anti-humanism, if not outright misanthropy, as evident in the writings of Edward Abbey. Not surprisingly, such misanthropy often emerges in the views expressed by several prominent deep ecologists. For example, in an interview with Bill Devall, published in the Australian magazine *Simply Living*, Dave Foreman suggested that the best response to the Ethiopian food crisis would be to let the people starve to death. As he remarked:

When I tell people how the worst thing we could do in Ethiopia is to give aid – the best thing would be to just let nature seek its own balance, to let the people there just starve, they think that is monstrous. But the alternative is that you go in and save these half-dead children who will never live a whole life.

(Devall 1987: 3–4)

In advocating that *nature* seek its own balance, Foreman completely ignored, of course, the political economy of the region, where, as Bookchin writes, ‘agribusiness, colonialism and exploitation’ had long made their impact (1987: 222). But then Foreman, in the interview, went on to suggest, like his mentor Edward Abbey, that there is a need to curb the immigration of Latin Americans into the United States:

Letting the USA be an overflow valve for problems in Latin America is not solving a thing. Its just putting more pressure on the resources we have in the USA. It is just causing more destruction of *our* wilderness, more poisoning of water and air, and it isn’t helping the problems in Latin America.

(Devall 1987: 3–4)

In this Foreman sounds rather like a flag-waving resource manager. But Bookchin (1987: 222) asks: who is this all-American ‘our’, who seemingly owns the ‘resources’ of the United States? The ordinary people who are often driven by sheer need to operate nuclear power plants or cut timber, or the giant corporations who are not only causing havoc in ‘good old USA’ but causing untold damage to the Mexican economy? Foreman’s entire formulation, like

those of Abbey and the right-wing biologist Garrett Hardin (1974), conceals the social origins of hunger, and of the refugee problem, for Central America has long been devastated by US corporate exploitation and the 'genocidal politics' that has supported this plunder. Thus the causes of migration, and the ecological problem more generally, are not due to an overflowing population but rather to the nature of international capitalism (Barry 1987; Bradford 1989: 31–34). Describing humans as a 'cancer' within the biosphere, Foreman made it clear that he had little time for left-wing humanist rhetoric, and was more interested in bears and rainforests than in people (Bradford 1989: 35).

Another deep ecologist and member of the Earth First! group who expressed extreme misanthropic sentiments was the literary philosopher Christopher Manes. Writing under the pseudonym 'Miss Ann Thropy' (1987), Manes penned an article on 'Population and Aids' in the *Earth First!* magazine. In this article, he advanced the obscene argument that AIDS is desirable as a means of population control. Not only is the demise of a large number of human beings through the AIDS virus considered a good thing, but it would also lead to the 'breakdown of technology' (read: the human food supply) and thus cause a further decrease in the human population.

The views of deep ecologists like Foreman and Manes thus exhibit a crude biologism as well as misanthropy, and such people, Bookchin argues, 'feed on human disasters, suffering and misery, preferable in Third World countries where AIDS is by far a more monstrous problem than elsewhere' (1987: 245). From the perspective of evolution, Manes was to later write, human beings are no more important than 'the simplest bacteria in a mud puddle' (1990: 164). This may well be so, but from a human perspective the encouragement given to the smallpox and AIDS viruses is hardly humane; indeed, as Bookchin argues, it reflects little more than callous indifference to human life and human suffering (1995b: 106).

What surprised Bookchin was not only the hostility that was expressed by deep ecologists towards social ecology, which is understandable given the polemical nature of his own initial critique, but the fact that academic deep ecologists were extremely slow to challenge the misanthropy and reactionary politics expressed by the Earth First! misanthropes. For example, the Australian philosopher Warwick Fox, whose antipathy towards Bookchin is quite pronounced, spends a whole page on Bookchin's 'vitriolic claims', citing the anarchists' strident and invective prose, and then ends the paragraph with the word 'indeed'. Indeed! In

the process of scoring literary points, Fox completely ignores, of course, the substance of Bookchin's critique of deep ecology. As Bookchin writes, Fox fails to give his readers any hint as to the harshly misanthropic statements that had provoked Bookchin's anger in the first place (Chase 1991: 124; see also Fox 1990: 49). Likewise, Bill Devall hardly challenged Foreman's misanthropy in his interview, while his colleague George Sessions declared that Foreman's remarks were of a 'casual' nature and only meant to have a 'shock value' – seemingly to provide Bookchin with an opportunity to attack deep ecology! Bookchin wonders whether the academic deep ecologists would have ever dissociated themselves from the misanthropic views expressed by Foreman (as well as by Edward Abbey and Christopher Manes) had he not stridently criticized them in his polemic 'Social Ecology Versus Deep Ecology'.

What particularly troubled Bookchin was that the ecology movement, like the feminist movement, was increasingly being appropriated by two contrasting tendencies. On the one hand, it was being hijacked by the existing social order, and ecological issues were being embraced by a reformist environmentalism. With a technocratic, instrumental approach to nature, and a concern for resource conservation, such a 'managerial' approach to environmental problems rested on the belief that such problems could be solved without any fundamental changes to the dominant ideology, or to existing economic and political structures. As we have noted, Bookchin continually critiqued, long before the deep ecologists, such 'shallow' reformist environmentalism.

On the other hand, Bookchin was equally troubled by the fact that the radical ecology movement was also under 'ideological siege' from proponents of so-called 'spiritual ecology' – influenced by New Age romanticism and actively promoted by the eclecticism of the deep ecology movement. Such 'mystical ecology', as Bookchin describes it, was a collection of assorted atavistic religious traditions ranging from neo-paganism, earth Goddess worship and the Christian theism of Father Thomas Berry – with its spirits, deities and angels, or some vague 'divine' – to Buddhism, Taoism and the pantheism of Spinoza. Reflected in the writings of Arne Naess and George Sessions such pantheism was often equated with the spiritual monism of 'perennial philosophy' as expressed by Rene' Guenon and Seyyed Hossein Nasr, and uncritically embraced by Fritz Schumacher (1977). As a naturalist and rationalist Bookchin fervently rejects all forms of mystical ecology, viewing them as alien to organic philosophy and to a truly ecological worldview. Employing a term coined by the eco-feminist Chiah Heller, Bookchin humorously describes mystical ecology as

spiritual 'Eco-la-la' (1987: 225). There is little doubt, however, that adherents of deep ecology saw themselves as a 'spiritual-religious movement' and quite erroneously interpreted social ecology as a form of Hegelian Marxism (Devall 1988: 190; see also Bookchin 1987: 224).

Two aspects of deep ecology's mystical outlook concerned Bookchin – besides its embrace of spiritualism, which he felt was in flat contradiction to the refreshing naturalism that ecology had introduced into social theory. These were the emphasis given by deep ecologists to the spiritual selfeffacement of the individual, and the anti-rationalist sentiments that were expressed by many deep ecologists – even though it would be difficult to find a more rationalist thinker than Spinoza!

The norm of self-realization is one of the key concepts of deep ecology. It involves the idea of going beyond the modern Western self – of bourgeois individualism – and by means of 'spiritual growth' achieving self-realization, the identification of the self with a larger self, which stands for organic wholeness (Devall and Sessions 1985: 67). Deep ecologists like Naess seem somewhat ambivalent as to what this larger self (in capitals) exactly stands for, writing that this 'Self' is known throughout the history of philosophy under such names as 'the Universal Self', 'the Absolute', or 'the atman' (Naess 1989: 85). But in 'perennial philosophy' and in the religious (or idealist) traditions from which these terms derive, the 'Self' does not imply nature but has spiritual connotations, and the discovery of the 'Self' means identification with God, the absolute, or in the Vedanta tradition, Brahma.

Highly critical of the notion that the Western self can be defined solely in terms of the isolated ego of bourgeois ideology, Bookchin alludes to the fact that Western culture has nurtured also a sense of individuality that is vastly more expansive than the ego of bourgeois theory. In fact, self-realization as a fulfilment of individual and spiritual potentialities was expressed by a wide spectrum of western philosophers, ranging from Socrates and Aristotle, through to Aquinas and the philosophers of the Enlightenment, and including Hegel, Marx and Freud – none of whom are mentioned by Devall and Sessions. But the self-realization advocated by these two scholars involves a religious notion of the self, and thus by self-realization they essentially imply 'self-effacement' – the dissolution of the empirical self in a cosmic self – the 'self-in-Self'. In the Asian religious traditions, extolled by Devall and Sessions, the self is subsumed under a cosmic order in which the self (or lack thereof) is divested of control over its

own destiny. Bookchin notes that such a self was long subjugated to despotic rulers (1995b: 99). It is worth noting that Naess, who hardly mentions Taoism and Buddhism in his writings, seems unable to register whether or not he actually accepts Gandhi's embrace of Advaita Vedanta, and distances himself from the 'philosophy of oneness'. Even so, he aligns himself with Spinoza, and interprets Spinoza's philosophy as entailing a belief in an 'immanent God' (1989: 201), which is hardly different from the Christian concept of a 'divine immanence' (Berry 1988).

A 'self-in-Self' has not merely merged its identity with a larger cosmic whole (or God?) it has, Bookchin writes, *lost* its identity, its distinctively *human* qualities and its unique individuality. Besides being a thoroughly anthropomorphic concept, the Self of the deep ecologists, Bookchin argues, is essentially a vague, metaphysical category that dissolves our uniqueness and rationality into a deadening abstraction (1987: 229, 1995b: 99).

Bookchin interprets deep ecology, especially as advocated by Sessions, Devall and Warwick Fox, as a religion of salvation, with an ethic of redemption that tends to involve a personal retreat into the self. It thus has little concern with, or interest in, social activism – other than with the preservation of wilderness areas (1994a: 2).

Equally significant, the religious and mystical orientation of deep ecology places an emphasis on intuition, and on faith in some divine agency or presence, rather than on empirical knowledge and human reason. In response to Devall and Sessions' reliance on their own intuitions, Bookchin points out that shamans, priests, monarchs and ruling aristocracies have, throughout the centuries, claimed immense powers and privileges for themselves on the basis of their own 'intuited wisdom' (1995b: 98). But Bookchin was particularly troubled by the strident anti-rationalism expressed by many deep ecologists. That doyen of the deep ecologists, David Ehrenfeld, for instance, continually denigrates human reason, or the 'cult of reason' as he describes it. In his well-known text *The Arrogance of Humanism* (1978), Ehrenfeld describes 'humanism' as the dominant religion of our time (in the United States that is). Humanism, as Ehrenfeld narrowly defines it, is strongly 'anti-nature'; it places an unquestioning *faith* in human reason; it expresses an absolute *faith* in the power of humans to control their own destiny; it embraces the Cartesian dualism between humanity and nature; it has unbounded *faith* in science and technology and *worships* the machine; and, finally, it is reflected in the philosophical

assumptions of totalitarian dictators and political regimes (1978: 3–21). By such criteria Mumford, Dubos and Bookchin can hardly be described as humanists! No contemporary secular humanist places an ‘unquestioning *faith*’ in human reason, still less treating humanity or human reason as if it were some absolute or deity. But, as Bookchin writes, inverting Ehrenfeld’s definition of humanism, what do we have but a pithy definition of anti-humanism: ‘a faith in the powers of God, the power of supernatural forces, and the undirected power of nature’? It is, however, unclear exactly what these cryptic powers exactly entail (Ehrenfeld 1978: ix; Bookchin 1995b: 13). Bookchin goes on to suggest that antihumanists like Ehrenfeld *presuppose* and employ the very rational faculties that human beings alone possess, even as they denigrate these faculties as the source of human ‘hubris’ and ‘arrogance’ (1995b: 18).

Because Bookchin defends the importance of truth and human reason this does not imply that he is an ultra-rationalist or metaphysician in the style of Plato, Descartes, Spinoza or Hegel. For in stressing the importance of empirical knowledge and dialectical reason Bookchin does *not* succumb to a ‘reified hyper-rationality and scientism’ (Watson 1996: 45). In fact he continually repudiates scientism, if by scientism one means treating science as a metaphysics or the claim that scientific techniques or concepts used typically in the physical sciences can be applied to all domains of knowledge and human activity (1995b: 205). As for the suggestion that Bookchin’s critique of religious mysticism and his defence of rationality entails an alignment with the reactionary politics of neo-conservatives like William Buckley, Irving Kristal and Pat Buchanan (Black 1997: 88), this is even more absurd, and simply indicates that Bob Black has very little understanding of either neoconservatism or Bookchin’s social ecology.

But Bookchin notes that even a rather pious spiritual ecologist like Thomas Berry often succumbs to anti-rationalist rhetoric and anti-humanism. For Berry describes human beings as ‘the most pernicious mode of earthly being’ and as having a ‘demonic presence’ on earth, violating the ‘sacred’ aspects of nature. Berry even considered rationality to be a ‘cultural pathology’ (Bookchin 1994a: 21–25). Appropriating the important insights of evolutionary biology and ecological humanism – both secular traditions – this eco-theologian suggests that science is a form of spiritualism and that the ultimate sources of the ecological crisis are of religious origin, namely, the fact that humans have lost their sense of a ‘divine presence’ in nature. Having lost faith in the holy scriptures, Father Berry (1988) seeks to utilize an ecological sensibility in order to retrieve our sense or experience of the ‘divine’ (God, spirits or angels?) and thus re-enchant a

moribund Christianity. It is, however, quite obfuscating to conflate an ecological worldview – a secular organic philosophy – with a spiritualist metaphysics, whether this involves an immanent divinity (God) or pagan deities.

Neo-Malthusianism and the Politics of Deep Ecology

Nothing aroused Bookchin's chagrin more than the uncritical embrace by deep ecologists of neo-Malthusian doctrines, and the tendency of Devall and Sessions to depict Thomas Malthus, William Vogt and Paul Ehrlich as radical ecologists (Devall and Sessions 1985: 45–46). The 'population issue' has of course a long history, going back to Malthus, that 'unsavoury English person' (as Bookchin describes him) who from 1798 published *An Essay on the Principle of Population*. In this book Malthus maintains, as a universal law, that population always increases more rapidly than food supply, and is limited only by war, famine and disease.

Malthus was not concerned to foster human welfare; still less was he a radical prophet as Devall and Sessions suggest; apologist for industrial capitalism providing, as 'unfeeling justification for the inhuman miseries inflicted on the mass of English people by land-grabbing aristocrats and exploitative industrialists' (1994a: 30).

Largely a tirade against William Godwin's *Enquiry Concerning Political Justice* (1893), which argues that benevolence not self-interest is the well-spring of human affairs, Malthus' study is also a sustained critique of the humanistic philosophy of the Enlightenment. In essence Malthus was the ideologue par excellence of the land-grabbing English aristocracy, and thoroughly misanthropic and reactionary (Bookchin 1987: 242). Hardly a radical ecologist! he was essentially an

Bookchin writes, an
Neo-Malthusianism

After the Second World War there was a resurgence of neo-Malthusian doctrines in the United States, and a number of popular texts came to have prominence and influence within the emerging ecology movement. These included William Vogt's *The Road to Survival* (1948), Paul Ehrlich's *The Population Bomb* (1968), and two essays by the biologist Garrett Hardin that have since been endlessly

debated by eco-philosophers – ‘The Tragedy of the Commons’ (1968) and ‘Living on a Lifeboat’ (1974). All these neoMalthusian writings express an essential thesis, namely, that there are too many human beings populating the earth, and that they are ‘devouring’ its resources like a plague of locusts, causing untold damage. Thus famines in the developing world, the ecological crisis, and the steady influx of Latin American peoples into the United States are all viewed as explicable in terms of a population ‘crisis’.

In several tracts and essays Bookchin stridently critiqued the reactionary views of these eminent biologists. Among the many criticisms he made of their neo-Malthusian illusions the following are perhaps noteworthy.

Firstly, the grim and rather exaggerated predictions made by Paul Ehrlich in his *The Population Bomb*, which Bookchin felt was something of a reactionary manifesto, have proved to be grossly inaccurate. Ehrlich claimed that with a doubling of the world’s population, oil supplies would run out by the end of the twentieth century, and that humans and insects would be competing for the ‘last vestiges of grass on the planet’. All this has turned out to be ‘arrant rubbish’ (Bookchin 1994a: 6).

Secondly, as ardent supporters of free-market capitalism and with a yearning for an increasing gross national product, while at the same time expressing fears and anxiety that population growth would completely deplete the earth’s resources, the neo-Malthusians evinced a woeful social myopia. Famines and food shortages, and the ecological crisis itself, were thus interpreted as due to the fact that there were too many people on earth, and Ehrlich’s description of his experiences in the backstreets of New Delhi – while in a taxi – are enlightening, in that he conceived the world’s problems as being solely due to too many ‘people, people, people’, even suggesting that he could actually ‘feel’ the overpopulation (Ehrlich 1968: 15–16; Bookchin 1995b: 60–61). Thus the social origins of ecological problems are obscured: indeed the blame for them is placed squarely on the victims – the world’s poor. As Bookchin writes, if there is a ‘population problem’ or famine in Africa, the neo-Malthusians blame ‘ordinary people for having too many children or insisting on living too long’ – in the same way that the meanspirited Malthus blamed the labouring poor in England some two centuries ago. This theory, Bookchin argues, demeans the human victims of poverty and justifies privilege (1994a: 34).

In the writings of the neo-Malthusians such issues as class exploitation, class rule, property ownership, racial prejudice, gender oppression and civil wars are all bypassed, or ‘biologized’ out of existence. Bookchin points out that the studies of Frances Moore Lappe and Joseph Collins (1979), for example, have convincingly shown that world hunger is *not* due to overpopulation and scarcity, but to social and cultural dislocations, such as the maldistribution of land and resources, the penetration of US-based corporations into the developing world and a lack of participatory democracy. No wonder Bookchin recommends the book *Food First* to those who want to understand the reactionary implications of neo-Malthusian doctrines so warmly embraced by the deep ecologists Devall and Sessions (1987: 243). Equally, environmental degradation, as Bookchin continually affirms, is not due to the fact that there are too many people; it is rather the outcome of a competitive market system geared to profit, namely capitalism. As he puts it, ‘all ecological problems are social problems’, and are not simply caused by either religious ideologies (anthropocentrism) or by population numbers (1989: 24).

Thirdly, Bookchin highlights and deplores the misanthropic sentiments, the authoritarian politics and the overtly coercive strategies advocated by the neo-Malthusians. These include the use of American economic and state power to enforce population control in developing countries, including mass sterilization programmes, and denying the starving people of India and China medical care and food aid. Echoing Bookchin, one recent philosopher has described the outlook of the neo-Malthusians as being essentially Hobbesian, deeply despairing, inhumane and thoroughly anti-democratic (Hay 2002: 174–177). As Hardin explicitly drew attention to the ‘genetic consequences’ of giving aid to poverty-stricken people in the developing world, Bookchin is critical not only of the biologist’s elitist bias and antihumanism, but of the ‘eco-fascist’ tone of his writings (1995b: 77–79).

Bookchin recognized, of course, that the ever-increasing growth of the human population was a problem which potentially threatened the ecological integrity of the earth. As he noted in his dialogue with Dave Foreman, there is certainly a need to promote a rational solution to the human population problem. As he writes: ‘The world’s human population needs to be brought into a workable equilibrium with the “carrying capacity” of the planet’ (Chase 1991: 29).

For sooner or later the proliferation of human beings *will* have to be dealt with – although it was crucial, he suggests, that we identify exactly what we mean by

such terms as ‘carrying capacity’ and ‘overpopulation’. What Bookchin challenged was the simplistic explanation of the current ecological crisis by reference to an abstract ‘humanity’ and to human demography, and the advocacy of authoritarian politics, such as the Leviathan state (Ophuls 1977) to curb the human population. It hardly helps, Bookchin writes, to treat people as if they were fruit flies, and thus reduce human social problems to a ‘crude biologism’. Conversely, what might help would be to ‘provide people with decent lives, education, a sense of creative meaning in life, and, above all, free women from their roles as mere bearers of children – and population growth begins to stabilize and population rates even reverse their direction’ (1987: 244; for a recent useful discussion of the population problem which, like Bookchin, advocates a co-operative rather than a coercive approach to population and environment issues see Curtin 2005: 74–97).

The Politics of Deep Ecology

Given his Jewish background and his involvement in radical politics in the 1930s, and the fact that all his relatives in Europe had been murdered in the Nazi Holocaust, Bookchin admits that the thinking of many deep ecologists tended to frighten him. For the enthusiastic embrace of biocentrism, ecomystical ideologies, anti-rationalism and neo-Malthusian doctrines by the deep ecologists invoked echoes, for Bookchin, of the National Socialist movement in Germany. He noted that biocentrism and eco-mysticism had permeated the thinking and avowals of some of the most murderous of the Nazi leaders like Heinrich Himmler, and that there was no inherent link between ecological thought and radical politics. Indeed a ‘reverence for nature’ often went hand in hand with a complete lack of respect for human beings, and neo-Malthusian or Social Darwinist arguments were used to justify a racist state and racist population controls (Chase 1991: 30). But Bookchin made it clear that he was not suggesting that a liberal like Arne Naess, a transpersonal ecologist like Warwick Fox (who repudiated the misanthropy of his fellow deep ecologists), the social democratic biologist Paul Ehrlich, or even the radical ecologists associated with Earth First! – all of whom were deep ecologists – were in any sense fascists. Only that the denigration of rationality, the uncritical embrace of neo-Malthusian doctrines, and the misanthropy that inhered in any extreme expression of biocentrism, led all too easily to authoritarian politics and neo-fascism. Bookchin particularly drew attention to the writings of Edward Abbey and to the situation in Germany, where ecological thinkers such as Rudolf Bahro and Herbert Gruhl embrace a Volkish spirituality, racist ideologies, Social Darwinism

doctrines and authoritarian politics. Bahro even expresses the need for a spiritual 'God-state' (*gottesstaat*) and a 'green Adolf' in order to save Germany from the ecological crisis (1994: 8; Biehl and Staudenmaier 1995: 48–64; see also my review of Bahro's spiritual ecology as expressed in his well-known 1994 book *Avoiding Social and Ecological Disaster* – Morris 1996c).

Although deep ecologists like Naess, Devall and Sessions expressed the need to develop a decentralized form of politics, and Father Berry (1988: 163–170) embraced the concept of a bioregional community, Bookchin points out that such deep ecologists have not written a single line about decentralization, small-scale communities, local autonomy, mutual aid, participatory democracy and an anarchist society that was not worked out 'in painstaking detail and brilliantly contextualized into a unified and coherent outlook by Peter Kropotkin a century ago', as well as by social anarchists throughout the twentieth century (1987: 224; on Kropotkin see Morris 2004). Bookchin found it particularly offensive that the difference between deep ecology and social ecology was characterized by George Sessions as that between 'spiritualism' and Marxism (what a choice!) – when Bookchin situated himself firmly within the social anarchist tradition, and had written some trenchant criticisms of Marxism and proletarian socialism.

But although paying lip-service to local autonomy and bioregional responsibility, in practice the politics advocated by the deep ecologists are extremely vague, and essentially embrace a shallow reformism. Thus Devall and Sessions could write: 'Our first principle is to encourage agencies, legislators, property owners, and managers to consider flowing with rather than forcing natural processes' – alluding to John Muir's concept of 'righteous management' (Devall and Sessions 1985: 145). Along with the eclecticism expressed in their chapter on the 'Minority Tradition', Bookchin rightly describes such a 'goulash' of notions and moods as 'insufferably reformist and surprisingly environmentalist' (1987: 232).

Arne Naess, likewise, speaks out for decentralization and writes: 'The utopians of green societies point toward a kind of direct democracy with local controls of the means of production as the best means of achieving the goals' (1989: 158). But like many in the deep ecology movement he seems quite oblivious to the libertarian socialist tradition and equates socialism with the state capitalism of the Soviet Union, so offering suggestions for a 'New Renaissance' that are anything but new or original. He makes no reference at all to Bookchin, let alone to the earlier anarchist tradition. Yet paradoxically, this advocate of direct democracy and critic of contemporary capitalism makes two glaring omissions.

One is the suggestion that there is no capitalist political ideology (1989: 156). What on earth are neo-liberalism, fascism, Thatcherism and so-called 'enterprise culture', not to mention intellectual fashions like sociobiology? The second is that although advocating decentralization, Naess suggests that in order to counter the increasing population and war 'some *fairly* strong central political institutions' may be necessary (1989: 157). Also, to keep multinational corporations and 'certain' states in check, we may in the future have to envisage 'global institutions with some power' to curtail their activities. This is virtually the advocacy of a global state, the totalitarian implications of which are too ghastly to behold (1989: 139). Naess even writes: 'Experience suggests that the higher the level of local self-determination the stronger the central authority must be to override local sabotage of fundamental green policies' (1989: 157).

So while asserting that deep ecology has an affinity with 'contemporary non-violent anarchism' Naess' neo-Malthusianism and his pessimistic view of the human condition reinforce, as Bookchin writes, 'elitist beliefs in the ecology movement for state centralization and the use of coercion' (1994a: 27). There are, in fact, close similarities between the kind of politics envisaged by Naess and that of arch-conservatives and reactionaries like Ophuls and Hardin, as well as neo-liberals like Anthony Giddens (Morris 1996a: 178–82).

Bookchin concludes that the more intelligent bourgeoisie have nothing to fear from deep ecology, for the emphasis on mystical ecology, and transpersonal approaches to a spiritual self-realization present no threat at all to the capitalist order. Indeed, the unholy alliance between spiritualism and a coercive form of politics, as proposed by deep ecologists, has, for Bookchin, alarming consequences:

The state will still be an ever-present means for keeping oppressed people at bay and will 'manage' whatever crises emerge as best it can. Ultimately, society will tend to become more and more authoritarian, public life will atrophy, and subjectivism and egoism will erode the remaining vestiges of radical politics and social commitment – all in the name of achieving 'self-realization'.

(1994a: 14–15)

Deep ecologists appear to envisage little between industrial capitalism, with its technocratic ethos and anthropocentrism, and a spiritual ecology that makes a fetish out of the wilderness. They are thus still stuck in the dichotomy between

either God or mammon, between either wilderness preservation or resource conservation for an expanding capitalist order. Like eco-philosophers more generally, deep ecologists thus express very little interest in agriculture, or in urban problems, or even in wider ecological issues (cf. Light and Rolston 2003). Anyone expressing an interest in ecological problems relating to the urban poor or to subsistence farmers in the developing world is likely to be dismissed by deep ecologists as ‘anthropocentric’, the latter term being stretched beyond its earlier theological meaning to embrace anyone who expresses a concern for social justice or for the ecological well-being of humans.

As eco-mystics, deep ecologists also seem to look askance at all human activity beyond that of hunter-gathering, and even subsistence farming is frowned upon as harmful and antithetical to their highly mystified concept of the wilderness. Bookchin asks: what right have middle-class academics, who use cameras and binoculars on their wilderness sojourns, and write paeans to the wilderness on their word processors, to criticize subsistence farmers who move into forest areas in order to obtain a basic livelihood? What in fact could do more to intensify human alienation from ‘nature’ than to exclude people from so-called wilderness areas? And are not mining companies, agribusiness, loggers and ranchers equally complicit in the destruction of forests as peasant farmers (1994a: 17)?

Because Bookchin continually critiques the neo-Malthusian emphasis on population, and advocates the need to promote the well-being, creativity and flourishing of human beings – *not* the flourishing of humans at the expense of other life forms – he is continually and perversely dismissed by deep ecologists like Sessions (1995: xxvi) for his ‘anthropocentrism’. This seems to indicate a rather wilful misunderstanding of Bookchin’s social ecology. Likewise, the eco-feminist Val Plumwood (1993) woefully misunderstands and thus misinterprets the thought of Bookchin. Because Bookchin insists that ecological problems are social problems, and offers harsh critiques of biocentrism, and because, unlike Plumwood, he tries to situate his work in terms of a political and philosophical tradition – and thus holds on to reason as opposed to spiritualism by critically developing the thought of Aristotle, Hegel and Marx, Plumwood has the mistaken impression that Bookchin’s dialectical naturalism implies ‘human superiority over nature’ and indicates an anthropocentric attitude that displays ‘little sensitivity’ to the domination of humans over nature (1993: 14–15). Such an interpretation is almost as distorted as that of Christopher Manes, who suggests (1990: 159) that Bookchin is a latter-day Teilhard de Chardin, and an

advocate of New Age spiritual mysticism! As I have noted, Bookchin explicitly and emphatically repudiates both anthropocentrism and biocentrism and offers resounding critiques of both Plato's dualism and instrumental reason (environmentalism). Although he does try to develop (as we shall explore in the next chapter) the dialectical, organic and progressive aspects of Aristotle, Hegel and Marx, nobody has criticized more trenchantly their statist politics and the anthropocentric teleology inherent in their work. Most of the critiques that Plumwood has to offer – of sociobiology, of mother-Goddess theology, of deep ecology, of capitalism (which Plumwood describes as a 'rational economy'!), of economic theory, and most of her substantive proposals regarding the relationship between humanity and nature – to be one that is 'mutual and reciprocal' – simply echo what Bookchin (among others) have been suggesting for over three decades. It is worth noting that Plumwood's philosophical text makes no mention at all of Spinoza, Darwin or Kropotkin, let alone such ecological humanists as Mumford and Dubos, yet purports to be an original critique of dualistic metaphysics and anthropocentrism (see Morris 1995).

In a more recent, but equally scholastic text in which Plumwood (2002) advocates the need to develop an 'environmental culture', Bookchin is only mentioned in a footnote, and there only to insinuate that he cares little for the suffering of non-human animals. This conclusion reflects a wilful misinterpretation of Bookchin's writings, for Bookchin, in the passage cited, repudiates the systematic cruelty that human society (i.e. capitalism) inflicts upon 'vital beings, animal as well as human' (1982: 362). Did not Bookchin advocate the need to develop an 'ecological society' over thirty years ago?

It is quite clear from Bookchin's writings that he is trying to avoid two extremes in relation to ecological thinking. On the one hand, the extreme of reformist environmentalism, the accompaniment of industrial capitalism, with its emphasis on anthropocentrism (the belief in the 'supremacy' of humans over nature), competition, egoism, instrumental reason and a technocratic approach to social and ecological problems. At the other extreme is the spiritual or mystical ecology of the deep ecologists which, as we have seen, Bookchin associates with a misanthropic form of biocentrism, neo-Malthusianism, the denigration of reason and technology and antihumanism. What he advocates then is an *ecological* way of thinking, a coherent, synthetic philosophy that integrates the insights of philosophy, anthropology, history, evolutionary biology and social theory, and which advances a new rationality (dialectical), a spiritual or ecological sensibility, an ethics of complementarity and a utopian vision in the

service of freedom – a freedom, he emphasizes, ‘for *natural* development as well as human’ (1989: 17–18). As noted earlier, ‘spirituality’ for Bookchin connotes a wholesome sensitivity towards the natural world, and the interdependence of life forms; something very different from the idea of turning ecology into a religion (as envisaged by deep ecologists), by peopling the world with gods, goddesses, wood sprites and the like, or alternatively, by positing some ‘divine presence’ in regard to which nature is only its manifestation. Bookchin is against the spiritualism of the deep ecologists (and eco-theologians) for two reasons.

One is that the naturalistic outlook which ecology (like anthropology and evolutionary biology) reflects is being supplanted by a supernatural tendency that is inherently alien to nature’s own fecundity and self-creativity. The natural world is so diverse and rich, and so wondrous in its varied life forms, Bookchin suggests, that it alone can suffice to invoke human feelings of admiration and respect, and to foster an aesthetic as well as a caring sensibility. Peopling the world with gods and spirits is simply a crude form of anthropomorphism and is contrary to any genuine ecological philosophy (1989: 12).

Secondly, Bookchin rightly argues that to worship or revere any being, natural or supernatural, will always be a form of subjugation and servitude that will ultimately give rise to social domination: ‘The moment human beings fall on their knees before anything that is “higher” than themselves, hierarchy will have made its first triumph over freedom’ (1989: 13). He notes that throughout human history ruling elites have cynically used religion to support and bolster the most oppressive and dehumanizing political regimes. Thus he repudiates both mechanistic philosophy and religious metaphysics, whether the latter implies spirit cults, theism or mysticism, and advocates as an alternative an ecological humanism in which nature is interpreted as a graded evolutionary continuum *within* which human beings and their social existence can express or embody the creativity of nature (1989: 35–36). The crucial point, of course, as with Mumford and Dubos, is Bookchin’s insistence that humans do not merely adapt to the natural world, but express creative agency and self-consciousness: ‘the human species has evolved as a life-form that is organized to *make* a place for itself in the natural world, not simply to *adapt* to nature’ (1989: 42).

Dialogue with Deep Ecology

Some two years after the Amherst meeting and the publication of Bookchin’s strident critique of the mystical and misanthropic tendencies within the deep

ecology movement, a meeting was arranged between Bookchin and Dave Foreman. Undertaken under the auspices of the Learning Alliance, it took place in New York City in November 1989. The outcome was a constructive and illuminating dialogue between the main proponents of the two main wings of the radical ecology movement, between Foreman's deep ecology with its emphasis on biocentrism and on the preservation of wilderness areas as the most essential human project, and Bookchin's social ecology, which emphasizes that a radical transformation of contemporary society is the essential key to defending the earth. The dialogue between the two men was undertaken in a critical but generous spirit, and indicated not only their differences, but also what they had in common – an uncompromising opposition to corporate 'environmentalism'. The dialogue was published as an informative text *Defending the Earth* (Chase 1991), which includes a very useful and lucid introduction by Steve Chase.

It is important to realize that the debate between Bookchin and the deep ecologists, represented by Foreman, is not simply a heated rehash of the old debate between the advocates of wilderness preservation, as reflected in the writings of John Muir, and the resource conservation strategy of environmental reformists like Gifford Pinchot. It is a debate *within* the radical ecology movement. But drawing on the distinction between visions of the 'wilderness' and that of the cultivated 'Gardens of Eden' Chase rather misleadingly suggests that René Dubos adopted an exclusive version of the 'Garden' vision and thus advocated the 'humanizing' and 'managing' of the entire surface of the planet – a vision of the earth as 'totally modified' by humans. It is clear, however, that Dubos never advocated such a totalizing vision, nor was he 'anti-wilderness' as Chase implies (1991: 14). To the contrary, Dubos insisted that humanized landscapes – urban and rural – and wilderness areas are *both* necessary for human well-being, and thus that it is essential to preserve natural environments (1980: 158–159).

What is clear, however, is that Bookchin, as Chase indicates, never embraced the one-sided 'Garden of Eden' vista of a completely modified Earth. In fact, he adamantly rejects the vision of a completely 'domesticated' or 'pacified' planet, noting that a prudent re-scaling of human hubris 'should call for caution in disturbing natural processes' (1982: 24). And, as noted earlier, way back in 1969, in the manifesto of Ecology Action East, Bookchin had asserted that one of the essential aims of social ecology is to 'guard and expand wilderness areas and domains for wildlife' (1980: 44; Chase 1991: 14).

However, in his introduction to the Bookchin–Foreman dialogue, Chase clearly agrees with Bookchin that there is a misanthropic strain within the more extreme wilderness vision articulated by some deep ecologists – Christopher Mane being a prime example. Indeed, Chase concludes that ‘the deep ecology movement as a whole lacks a consistent or clear social analysis of the ecology crisis or even a consistent commitment to humane social ethics’ (1991: 20). But Chase is equally critical of Bookchin for lacking any real commitment to wilderness preservation, and for leaving the ‘wilderness’ element relatively undeveloped in his theory (1991: 16). Bookchin, of course, suggests that the concept of ‘wilderness’ as a pristine environment has a rather mythical quality about it.

What emerged from the dialogue between Bookchin and Foreman was that the deep ecologist retracted his earlier misanthropic statements, and regretted that he had tended to overlook the importance of radical socialist theory; whereas Bookchin fervently reiterated his views on social ecology that he had been developing over the decades. He emphasized that for over fifty years he had been a ‘revolutionary leftist’ and actively engaged in the ‘ecological frontlines’ since the 1960s – campaigning against nuclear power, opposing the use of pesticides and food additives, and an active member of the Left Green Network. Bookchin also made it clear that he had a passion for wilderness areas, had visited almost every national park in the United States and had hiked most of the Appalachian Trail. Thus Bookchin affirmed that he stood ‘shoulder to shoulder’ with Foreman and the environmental activists associated with *Earth First!* in their use of direct action campaigns to protect the wilderness. He also stressed his solidarity with Foreman, who had that same year been accused of ‘terrorism’ by the FBI, recognizing that this was a government attack on the whole ecology movement.

But during the dialogue Bookchin expressed his earlier misgivings about deep ecology, saying that: ‘It masks the fact that our ecological problems are fundamentally social problems requiring fundamental social changes. That is what I mean by *social* ecology’ (Chase 1991: 32). Bookchin also emphasized the distinction he made between a ‘new spirituality’, a naturalistic ecological sensibility, and the ‘green religion’ advocated by deep ecologists – whether theistic, mystical, or involving ‘ancient gods, goddesses or wood sprites’. Concluding that the political differences between Foreman and himself were largely complementary, Bookchin noted that while Foreman and *Earth First!* were involved in preserving the wilderness, he was trying to create ‘a new grassroots municipal politics, a new co-operative economics, a new pattern of

science and technology to go along with their direct action . . . and protests to protect wilderness' (Chase 1991: 36). Acknowledging that he was an atheist like Bookchin, Foreman affirmed that he was in agreement with everything Bookchin had said, although, inspired by Muir and Aldo Leopold, he continued to believe in the crucial importance of 'monkey-wrenching' (Chase 1991: 45-46).

In subsequent discussions Bookchin stresses that social ecology is a 'left libertarian perspective' that calls for a 'genuinely ecological society and the development of an ecological sensibility that deeply respects the natural world and the creative thrust of natural evolution', and again affirms that 'the immediate source of the ecological crisis is capitalism'. Indeed, that corporate capitalism is *inherently* anti-ecological (Chase 1991: 57-59).

In response to Linda Davidoff's advocacy of a pragmatic, reformist strategy in relation to environmental issues, Bookchin fervently reiterates his critique of 'environmentalism' and reaffirms his revolutionary ecoanarchism. Although admitting that he had no 'pat formulas' for making such a revolution, what we need, he concluded, is a 'social movement that can effectively resist and ultimately replace the nation-state and corporate capitalism, not one that limits its sights to "improving" the current system' (Chase 1991: 81).

In his conclusions to the Bookchin-Foreman dialogue *Defending the Earth* Steve Chase remarks that what is emerging is a more unified, more holistic, more integrated radical ecology movement. This movement, he writes, 'will be neither anthropocentric nor misanthropic. It will seek to both expand wilderness *and* create a humane and ecological society' (1991: 24).

This is, in fact, Bookchin's own vision.

The Philosophy of Social Ecology

In the decade following the publication of *The Ecology of Freedom*, Bookchin not only wrote trenchant critiques of deep ecology, but also drafted a number of seminal essays that collectively constitute an outline of his philosophy of nature. This he describes as ‘dialectical naturalism’.

Bookchin’s style has been described as Hegelian by Nicolas Walter (2007: 174), which is to some extent true. But it is not only Bookchin’s style that is Hegelian, but his whole tenor of thinking. For like Hegel, Bookchin conceives the world, nature, as an objective reality in the process of becoming. Yet it has to be acknowledged that Hegel is only one influence on Bookchin’s oeuvre, and that his philosophy of social ecology is a rich and original synthesis of many different streams of thought. These include: the Marxist tradition, which Bookchin had imbibed in his early years as a radical Trotskyist; the political tradition of social anarchism, the writings of Herbert Read, Paul Goodman and especially Kropotkin being of particular influence; the social ecology of Mumford, Dubos and E.A. Gutkind (1954); and, finally, the evolutionary biology of Charles Darwin, for it was Darwin who initiated the kind of ecological worldview that Bookchin embraced, and outlined in such a challenging and impressive manner in *The Ecology of Freedom*.

Asked why spiritualism and mystical beliefs had become so prevalent in Western societies during the past few decades, Bookchin replied that it was for the same reason that mysticism ran rampant during the decline of the Roman Empire. For under global capitalism local communities and people’s feelings and empathy for each other have been eroded, given capitalism’s propensity for fetishizing commodities as substitutes for genuine social relationship. Consumerism is thus rampant, and egoism and narcissistic individualism are dominant ideologies. In such times of social decadence, religion, Bookchin writes, becomes an ‘anodyne’, and mystical beliefs fill a ‘psychological vacuum’ (1999: 123). At such times, there is under global capitalism sweeping social disruption and intellectual fragmentation; thus it is hardly surprising, Bookchin suggests, that ideological faddism and eclecticism are now ubiquitous, seriously eroding

coherent thinking. This eclecticism, as discussed, is particularly evident among academic deep ecologists who, Bookchin suggests, have replaced genuine thinking with an eclectic mix of ‘Taoist moods, Buddhist homilies and New Age platitudes’ along with Heideggerian ‘woodpaths’ and Jungian archetypes. In the process they have not only offered rather etiolated versions of Asian thought, but tend to ignore entirely the Western tradition of organismic philosophy. For the deep ecologists, along with social science generally, including anthropology, tend to equate, in rather monolithic fashion, Western thought with Cartesian dualism and mechanistic science. They thus pour scorn on Descartes and Bacon as the sources of ‘dualism’ and ‘scientism’, as well as being the source of current ecological problems, often without ever reading their works. Organismic philosophy had its origins in Greek thought, particularly with the pre-Socratics and Aristotle, and reached its high point via Spinoza, in such thinkers as Diderot and Hegel. Such organismic thinking still haunts us, Bookchin writes, in the works of R.G. Collingwood (1945) and Hans Jonas (1966; Bookchin 1995a: 98).

In exploring the complex relationship between humans and the natural world, and in debating such issues as monism and dualism, reductionism and dialectics, the works of Aristotle, Spinoza and Hegel, as well as Darwin, offer a far richer source of ideas and intellectual insights, Bookchin argues, than Eastern traditions, where these notions tend to take a ‘vaporous and mystical form’ (1995a: 101).

Thus situating himself explicitly in the Western organismic tradition, Bookchin suggests that the universe ‘bears witness to a *developing* – not merely moving – substance, whose most dynamic and creative attribute is its unceasing capacity for self-organization into increasingly complex forms’ (1995a: 59). Life in all its attributes is seen as latent in matter, and the latter, for Bookchin, is not so much a ‘realm of necessity’ as an active substance.

Essentially Bookchin conjoins Hegel’s dialectics with evolutionary theory, suggesting a natural philosophy which he describes as ‘dialectical naturalism’. Nature, he argues, is a process in which all life forms actively participate in their own evolution – as ‘active beings’ (1995a: 81), for nature itself is a conative and creative process. The natural world, then, for Bookchin, is a process that yields increasing complexity and diversity, or ‘unity-in-diversity’ – a graded continuum in which mutualism, self-reflection, creativity and freedom are inherent in nature itself as potentiality. Bookchin thus argues that there is no opposition between nature and what he calls ‘second nature’

– human society, culture and consciousness – for the latter are the products of natural evolution. Following Hegel, he suggests that the human species – their culture and consciousness – is simply the embodiment of nature's own thrust towards self-reflexivity and subjectivity.

To understand the world as a developing process, and to elicit an objective ethic that will guide us in the present crisis, Bookchin stresses the importance of dialectical naturalism as a way of knowledge. He therefore not only makes some trenchant critiques of 'mystical ecology' but also posits a clear distinction between two kinds of reason – instrumental or analytic and dialectical.

In the last quarter of the twentieth century, under the combined influences of deep ecology, postmodernism and New Age religion, there has been an appalling regression of social thought among Western intellectuals. As Bookchin sums up the situation: there has been a 'regression of rationality into intuitionism, of naturalism into supernaturalism, of realism into mysticism, of humanism into parochialism, and of social theory into psychology' (1995a: 33).

Bookchin is extremely critical of mystical ecology, as advanced by the deep ecologists. For such mystical ecology advances a message of selfeffacement and obedience to the 'laws of nature' (downplaying human praxis); fosters a belief in mystical intuitions and often denigrates human reason; and in reaction to Cartesian metaphysics tends to dissolve historical development into an undifferentiated continuum or even to postulate the mystical union of the empirical self with the spiritual 'one' or cosmic 'self'. Along with its neo-Malthusianism and biocentrism, Bookchin is thus highly critical, as earlier explored, of the mystical and religious tendencies among the deep ecologists. He is even critical of their overemphasis on 'reverence for nature'. Taken from the nineteenth-century Romantic tradition this 'revered' nature, he suggests, inevitably becomes a separated nature, and thus a reified and mystified entity (1995a: 82, 115–119).

Bookchin emphasizes the limitations of instrumental or 'conventional' reason – its focus on the fixity of things, its mechanical causality, its separation of fact and value, its empiricism – and therefore its problematic nature in the present crisis. For its mechanistic tendencies and its 'Promethean' ethic, characteristic of reformist environmentalists, have negative consequences. But unlike many mystical ecologists, Bookchin stresses that this kind of reason, evident in mathematics, engineering and the pragmatics of everyday life, is indispensable

for survival. The Oglala Sioux may in their rituals have expressed a sacramental vision of nature, but in the hunting of the buffalo they used a very different kind of logic. Bookchin does not deny the crucial importance of instrumental reason in everyday transactions (1995a: 6–10) and affirms the importance of pragmatic knowledge, of analysis, of understanding the world in terms of efficient causes. He does however suggest that they have crucial limitations in understanding the complexity of organic and social life (1995a: 19). As he expresses it elsewhere: an organic way of thinking in no way conflicts with the proper use of mechanical and analytical modes of thought ‘but rather *encompasses* them’ (1986a: 14).

When deep ecologists and critical theorists offer critiques of ‘reason’ it is usually defined, Bookchin suggests, in terms of instrumental reason, which implies human supremacy and an unquestioning faith in the power of reason to ‘master’ or ‘dominate’ nature – as Ehrenfeld expresses it (1978: 5). Thus the only choice we are given by deep ecologists is between positivism and mysticism, mechanistic philosophy or spiritual ecology, anthropocentrism or biocentrism, either a utilitarian or a sacramental attitude to nature (Morris 1996a: 7).

Repudiating these false alternatives, Bookchin emphasizes the importance of an ethic of mutualism and complementarity, and of developing a dialectical or organic way of thinking. This form of reason he sees as expressed in Aristotle’s *Metaphysics* and Hegel’s *Science of Logic*. These thinkers had, he argues, an ‘emergent’ interpretation of causality, and a vision of reality as a developmental process. They sensed that there was an underlying order in the world, that there were processes in the world leading to differentiation, and that there was some kind of directionality towards ever-greater complexity and wholeness. Being, for Aristotle and Hegel, was becoming, and what is potential is being actualized in the history of the world. Like Hegel, Bookchin feels that ‘dialectics’ is both a method of understanding reality and an account of an objective world. But he fervently counters the notion that ‘dialectics’ is simply a method – for this distorts its true meaning. To the contrary, he suggests, it is an ongoing protest against the very idea of ‘methodology’, that one cannot separate ‘techniques’ for thinking from the process itself (1995a: 129). But Bookchin rejects the teleology inherent in Aristotle and Hegel, as well as their theological tendencies and reactionary politics, and essentially combines ‘dialectics’, as I have said, with evolutionary theory and ecology (1995a: 13–17).

Dialectics, for Bookchin, is thus both a way of reasoning and an account of an objective world – the world is certainly not a social ‘construction’. It suggests an

organic causality or form of reason, and a developmental interpretation of reality as an evolutionary process. History for Bookchin, as for Marxists and evolutionary biologists, is a developmental phenomenon, such that subsequent periods or events are dependent upon prior ones (1995a: 9).

Bookchin clearly had a great admiration for the philosophies of Aristotle and Hegel, and indeed considered the grandeur of Hegel's efforts to be without equal in the history of Western philosophy. Hegel's holistic concept of 'unity-in-diversity' clearly resonated with the ideas that were emerging within the ecology movement, even though Hegel rejected natural evolution in favour of a rather 'static hierarchy of Being'. But Bookchin repudiates Hegel's 'absolute idealism' and his idea of a cosmic spirit (*geist*), as well as the teleology inherent in his philosophy (1980: 59, 1995a: 14). Bookchin himself has often been described as a teleological thinker. In fact, in distinguishing his own philosophy from that of Hegel's objective idealism, Bookchin declares that 'there is nothing teleological, mystical or absolutist about history. "Wholeness" is no teleological referent, whose evolving components are merely parts of a pre-determined "Absolute"' (1995a: 167).

For Bookchin there is no predetermined end or *telos* in natural evolution that inexorably guides life towards consciousness and freedom. But he is adamant that there is the potentiality for achieving consciousness and freedom within nature, and that natural evolution exhibits a directionality towards increasing diversity, subjectivity and complexity (1982: xxiv). In a sympathetic review of Bookchin's dialectical naturalism, Glenn Albrecht (1998) suggests that his ideas regarding the evolution of diversity and selforganization have been confirmed by recent studies in what has been described as 'complexity theory' (Lewin 1993).

Yet Bookchin is equally critical of Marxist dialectical materialism, especially as described by Marx's long-time associate Friedrich Engels (1940). For Engels was enamoured with notions of 'matter and motion' and with the concept of 'natural law' (as expressed in classical physics) and thus his dialectical approach lacks any emphasis on organic development (Bookchin 1995a: 14). Bookchin's dialectical naturalism attempts to go beyond the failings and limitations of both Hegel's objective idealism and Engels' materialism, aiming to combine dialectical reason with an 'ecology rooted in evolutionary development' (1995a: 14).

The term 'naturalism' is employed by Bookchin, not just to distinguish his own

theory from Hegel's idealism and Engels' materialism, but also to emphasize the fact that an understanding of nature is not sufficiently covered by the physics of matter and motion, or even by the stress on the interconnection between phenomena, but rather that the biological world involves a 'continuum', the cumulative evolution of ever-differentiating and increasingly complex life forms. The evolution of organic (and social) life is thus a cumulative development, exhibiting a high degree of 'orderly continuity'. As Bookchin writes, 'The old never completely disappears but is re-worked into something new' (1995a: 27–29). There is therefore, within nature, a natural tendency towards greater complexity and subjectivity (1995a: 29–31).

In his essay 'Toward a Philosophy of Nature' Bookchin notes that with a growing recognition of the ecological crisis, academic philosophers have turned increasingly towards nature philosophy. But rather than drawing on the Western organic tradition, academic philosophers have, in their critiques of Cartesian mechanistic philosophy – the 'original sin' – tended to be captivated by Asian traditions, or by the more subjectivist or scientistic intellectual orientations, such as the neo-vitalism of Driesch and Bergson, Heidegger's existentialist phenomenology and systems theory (1995a: 38–42).

In the essay Bookchin offers some critical, if brief, reflections on preSocratic philosophy – which he clearly admires – and on Kantian metaphysics. However, naïve and archaic as pre-Socratic philosophy may now appear, it had a sense that reality is fecund, pregnant, and immanently selfelaborating, as well as orderly and intelligible. The world is thus open to rational interpretation, and because one can explain the world, the world is meaningful. Although there is a tension in the philosophy of Thales and other Ionian thinkers between their animistic outlook and secular reason – for the world is conceived as a kind of organism – nevertheless important heuristic insights, Bookchin suggests, can be derived from the pre-Socratics, especially the idea that moral values can be 'grounded in nature' (1982: 99, 1995a: 43–44).

In contrast, Kantian philosophy denies the importance of ontology, and Kant's so-called 'epistemological turn', Bookchin argues, 'finally denatured nature'. Drawing on the work of Karl Jaspers (1962), Bookchin highlights the fact that Kant provides no doctrine of the metaphysical world, and places an epistemological focus on systems of knowledge (*episteme*), rather than on a naturalistic focus on systems of facts (*onta*). The Greek *onta*, the world of 'really existing things' thus became unknowable. Bookchin notes that Hegel ridiculed

this idea that ‘things-in-themselves’ were ‘unknowable’, and that a century or so later both Husserl and Heidegger still tended to downplay ontology, distilling ‘reality into intellection’ (1995a: 48–49).

Both social ecology and the future ecological society that Bookchin envisions as necessary for our future well-being, indeed our very survival, are felt by him to be the actualization of potentialities that are already inherent in the evolutionary process itself – mutualism, diversity, spontaneity, self-consciousness and freedom. He is therefore highly critical of all theories that seem to him to inhibit the ‘self-realization’ of nature and human life, theories that may hamper us in ‘thinking ecologically’. Within the ecology movement, he is specifically critical of five theoretical tendencies that permeate much contemporary ecological writing – Marxism, sociobiology, systems theory, deep ecology and neo-primitivism. All these tendencies are expressions, Bookchin felt, of a pervasive anti-humanism that is now prevalent in Western intellectual culture. In earlier chapters I discussed Bookchin’s critique of deep ecology, particularly its mystical ecology, biocentrism, antirationalism and its neo-Malthusian tendency. To conclude this chapter I shall briefly discuss, in turn, Bookchin’s critique of the four other negative tendencies within the ecology movement.

Critique of Marxism

Bookchin in his early life was a Marxist, but coming under the influence of the German libertarian thinker Josef Weber in the 1940s he became a libertarian socialist – and so remained for the rest of his life. A kind of Hegelian Marxism therefore infuses his work, and throughout his writings there are echoes of the critical theorists Marcuse, Adorno and Horkheimer, though he shares none of their pessimism. What he valued in their writings was their critique of positivism and Heideggarian mysticism, and their important insights into Hegelian philosophy. Even so, Bookchin feels that the critical theorists lacked any real emancipatory thrust (1995a: 142) and strongly argues that Marxism itself is thoroughly tainted with a productivist ethos and is akin to classical bourgeois thought. In fact, he presents a refreshing and cogent reaffirmation of the anarchist critique of Marxism, particularly the neo-Marxism of writers like Gorz (see above). Bookchin suggests that an ethic of domination and a stress on authority and hierarchy are inherent in Marxism. Marx, he writes, was preoccupied with the *preconditions* of freedom (technological development, material abundance) not with the *conditions* of freedom (decentralization, the formation of communities, direct democracy, and technologies and urban life on

a human scale) (1971: 210). Thus Bookchin sees a congruence between Marxism – with its stress on economic rationalism, planned production ‘proletarian state’ – and the inherent development towards monopoly and political control. Marxism, he suggests, may well be the ideology of state capitalism par excellence (1980: 209). He also criticizes its continuing stress on the proletariat as the sole agent of revolutionary change and the eclecticism and intellectual obscurantism of much current Marxist theory. It is quite misleading to suggest, however, that Bookchin is and a centralized

of capitalism itself ‘rigidly anti-Marxist’ (Kovel 2002: 189), for he was appreciative of Marx’s critical analysis of capitalism, and his ideas permeate Bookchin’s writings. He often uses Marx to critique Marxism, and his whole philosophy represents a creative synthesis of Hegelian Marxism, ecology and social anarchism. Yet although there have been many attempts to establish Marx’s credentials as a proto-ecologist (e.g. Foster 2000), Bookchin was always to affirm that he did not consider Marx, in contrast to Kropotkin, to be a truly ecological thinker (see Bookchin’s important reflections on Marx and Marxism 1999: 263– 298).

Reactionary Sociobiology

Sociobiology suddenly burst upon the intellectual scene in the spring of 1975, amid a fanfare of publicity. It marked the publication of *Sociobiology: A New Synthesis* by the Harvard biologist Edward Wilson, a scholar who, until then, was hardly known outside the narrow halls of academia. The book soon became the subject of controversy, and the author suddenly found himself a celebrity. What caused the furore was that Wilson applied his theory – sociobiology, which he defined as the ‘systematic study of the biological basis of all social behaviour’ – not only to animal life generally, but also to humans. A year later the Oxford biologist Richard Dawkins published his popular work *The Selfish Gene*, which follows Wilson in suggesting that genes are ends in themselves and that organisms exist simply as a ‘temporary carrier’ for genes (Wilson 1975: 4). Indeed, Dawkins suggests that humans, like other animals, are simply ‘machines created by our genes’ (1976: 2). Soon sociobiology came to exert a wide influence, particularly in the social sciences and in the development of evolutionary psychology.

Although heralded as a ‘new synthesis’, Bookchin suggests that sociobiology is akin to Social Darwinism and that similar ideas advocating a biological

interpretation of human culture have a long history, and fed directly into National Socialist ideology (1995b: 57). Bookchin, in a polemical critique, makes a number of important criticisms of sociobiology, namely: its Social Darwinian emphasis on conflict, aggression, competition, hierarchy and violence, thus depicting a questionable Hobbesian portrait of (human) nature; its tendency to employ anthropomorphic terms such as ‘caste’, ‘society’, ‘hierarchy’ and ‘labour’ indiscriminately in describing the behaviour of non-human animals, thereby obliterating crucial distinctions – discontinuities – between human social life and that of animal communities; its crude genetic determinism in the explanation of human sociocultural life, thus indicating a baneful form of reductionism; and, finally, sociobiology gives expression, in the most vulgar way, to a strident philosophical egoism. Thus Bookchin concludes that Wilson’s (and Dawkins’) ruthless ‘reduction of social phenomena to biology in general and genetics in particular is obscurantist by definition’ (1994a: 52–55).

In a discussion of Dawkins’ study, Bookchin notes that having spent around 200 pages advocating the sovereignty of the gene, the biologist – contradicting his own thesis – then suggests in the closing pages of the book that humans alone ‘can rebel against the tyranny’ of the selfish gene (Dawkins 1976: 215). Then, following the same naïve, atomistic approach, Dawkins suggests that ‘memes’ (otherwise known as cultural traits, concepts or ideas) have a life of their own and that they ‘parasitize’ people’s brains (1976: 207). The suggestion that culture can be reduced to biosocial ‘atoms’ is no less reductionist, Bookchin concludes, than the genetic determinism that Dawkins also propounds (1995b: 42). The reduction of humans to ‘gene machines’ is not only questionable on scientific grounds but is thoroughly anti-humanist and reactionary in its implications. Such are Bookchin’s reflections on sociobiology (for useful critiques of sociobiology and evolutionary psychology see Midgley 1985: 122–131; Morris 1996b: 132–142; Rose and Rose 2000; Bunge 2003: 154–162).

The Inadequacy of Systems Theory

There have been many critiques of mechanistic philosophy published during the last few decades, and many attempts to construct a ‘new paradigm’, a new philosophy of nature. The writings of Gregory Bateson (1979), Ilya Prigogine (Prigogine and Stengers 1984) and Fritjof Capra (1982) are the best known examples. Although it has to be stressed that a new ecological worldview had been initiated long ago by scholars such as Humboldt, Reclus, Haeckel and Kropotkin, as well as by many popular naturalists at the end of the nineteenth

century such as John Burroughs, John Muir, Ernest Thompson Seton, Richard Jefferies, W.H. Hudson and Jean-Henri Fabre, all the more recent attempts, which involve a 'love affair' between ecological philosophy and systems theory, have, according to Bookchin, gone widely astray. They have indicated an insatiable tendency to appropriate, in the most uncritical and eclectic fashion, ideas from diverse traditions – ranging from Taoism and Franciscan theology to Heidegger's phenomenology – and they have also, paradoxically, rather uncritically accepted the essential tenets of mechanism.

In a critical scrutiny of the writings of Bateson, Prigogine and Capra,

Bookchin argues that cybernetics and systems theory are simply another version of mechanism, that these approaches follow the same kind of analytical reasoning cherished by scientific scholars, and that they are highly reductionist in their essential orientation, dissolving the concreteness of life forms into relationships or into lifeless abstractions. Systems theory tends to divest nature of its very physicality, 'Abandoning the study of things – living or not – for the study of the relationships between them is as one-sided and reductionist as abandoning the study of relationships for the things they inter-relate' (Bookchin 1995a: 114). Reacting against mechanistic materialism, Bateson, Bookchin suggests, verges on subjectivism, and the materiality of the world is dissolved into inter-relationships and then subjectivized as 'minds' (1995a: 114).

To render their accounts more colourful and meaningful, writers like Capra bring in notions of cosmic unity drawn from Eastern mysticism, whose connections with systems theory, Bookchin contends, is purely metaphoric. He sums up the 'incoherent' thinking of writers like Capra – the 'eco-faddists' as he rather harshly describes them – by suggesting that while it is 'almost uncritically Western in its harsh instrumental methodology, its heart is not less uncritically Eastern in sentimentality' (1995a: 99). Bookchin contends that aspects of Eastern thought are characterized by dualisms no less intractable than those of Descartes, and has notions of dominating nature that are akin to those of Bacon (1995a: 100). Systems theory, Bookchin thus concludes, simply replaces linear causality with 'circular causality by way of the feedback loop', completely ignores the importance of history, evolution and development, and is essentially a theory that can best be described as 'spiritual mechanism' (1995a: 51–53, 105–8).

The Allure of Primitivism

In *The Ecology of Freedom*, drawing on the important writings of Paul Radin

(1960) and Dorothy Lee (1959), both sensitive scholars of Native American Indian culture, Bookchin devotes a chapter to what he terms 'organic society'. This refers to tribal communities, and to early human communities that existed prior to civilization and the rise of the state and a market economy. He highlights several important features characteristic of such tribal societies, namely: a primordial equality and the absence of coercive or domineering values; a feeling of unity between the individual and the kin group; the principle of 'irreducible minimum' – a respect for the material needs of everyone in the community; a sense of communal property and an emphasis on mutual aid and usufruct rights; a relationship of reciprocal harmony and complementarity between humans and other life forms, particularly mammals; and, finally, complementary gender relations, work activities often being structured around women (1982: 43–61).

Bookchin is concerned that we draw lessons from the cultural past of preliterate peoples, rather than romanticizing them or emulating the lifestyle of early hunter-gatherers. For he was not unaware of the limitations of tribal society – its parochialism, widespread and chronic warfare (feuding), lack of technics, comparatively short life span, and, in some circumstances, an insensitivity towards non-human animals. The suggestion that the relationship of hunter-gatherers to the natural world is always an 'epitome of harmony' has, Bookchin contends, a rather mythical quality (1999: 121). He therefore suggests the need to integrate the archaic values of usufruct, complementarity, mutual aid and the irreducible minimum into a modern vision of freedom – that of an ecological society. What 'civilization' has given us, in spite of its 'legacy of domination', is the recognition that these values must be extended 'from the kin group to humanity as a whole' (1982: 319– 322).

What troubles Bookchin is that many deep ecologists and contemporary anarchists, in reacting against the degradation of the environment under industrial capitalism, and the negative and oppressive aspects of civilization, have repudiated civilization in its entirety and have become staunch advocates of a mystical 'neo-primitivism'. This primitivism entails the assertion that we should adopt the lifestyles of tribal people, or at least that we should emulate their ecological sensibilities. As a left libertarian, Bookchin, of course, was equally aware and critical of the negative aspects of human civilization – which he describes as a 'legacy of domination' – specifically its hierarchical forms, class exploitation under capitalism and bureaucratic state power. He thus expresses the need for a radical restructuring of society and the development of an ecological sensibility. But for him this did not imply the repudiation of all

aspects of human civilization. He is, therefore, extremely critical of such eco-primitivists as John Zerzan (1988) and David Watson (1996) who not only express technophobia, but repudiate civilization in its entirety.

An anti-civilizational primitivist par excellence (as Bookchin describes him), John Zerzan describes our hunter-gathering past as an idyllic era of virtue and authentic living. The last 8,000 years or so of human history after the Fall (agriculture) is seen as a period of tyranny and hierarchical control, a mechanized routine devoid of any spontaneity or sensual experience. All those products of the human imagination – farming, literacy, art, philosophy, technics, science, urban living, symbolic culture – are viewed by Zerzan in the most negative and monolithic fashion. The future, we are told, is ‘primitive’. How this is to be achieved in a world that presently sustains 6 billion people (for evidence suggests that the hunter-gatherer lifestyle is only able to support one or two people to the square mile), Zerzan does not tell us. While some radical ecologists glorify the ‘Golden Age’ of peasant agriculture, Zerzan follows the likes of Laurens Van Der Post in extolling a huntergathering existence with a selective culling of the anthropological literature. Primitivism, Bookchin suggests, seeks to go back to a mythical golden age of intellectual and social innocence that probably never existed, and is a romantic re-affirmation of the myth of the ‘Noble Savage’. He further implies that green primitivism is symptomatic of the estrangement of affluent urban dwellers and intellectuals from the natural (and human) world. Such primitivism has an inherent tendency to offer a misanthropic view of humanity, to identify nature with only a pristine wilderness, to denigrate reason by reference to some mystical ‘Palaeolithic spirituality’, and to express a hatred of both science and technology (1995b: 146, 1995c: 39–41; see also Bookchin’s critique of the neo-primitivism of David Watson, 1999: 186– 198).

Deep ecology, eco-mysticism and neo-primitivism are all expressive of a resurgence of neo-Romanticism, and thus a part of the ‘counterEnlightenment’ movement that is now widespread in Western culture, particularly among so-called postmodernist intellectuals. These also ‘scared the hell’ out of Bookchin, and his critique of postmodernism we can explore in the final chapter.

In Defence of the Enlightenment

The radical left tradition to which Bookchin belonged, libertarian socialism, is, he writes, ‘unequivocally anti-capitalism’. For Bookchin saw corporate capitalism as ‘inherently anti-ecological’, given that the market economy is structured around competition and accumulation, and geared to economic growth and profit. Thus corporate capitalism (not humans) is the cancer in the biosphere, undermining the processes of natural evolution (Chase 1991: 59).

Yet at a time when there is a serious need to develop a left libertarian green perspective, many people in the radical ecology and anarchist movements were falling under the spell of the ‘counter-Enlightenment’, thus embracing neo-primitivism, eco-mysticism, anti-rationalism, epistemological and moral relativism, bourgeois asocial individualism and a subjectivist and idealist metaphysic. They thus joined forces with academic postmodernists in denigrating the Enlightenment values of humanism, naturalism, reason, science and technology. As Bookchin put it, an eerie counter-Enlightenment was percolating through Western culture: ‘one that celebrates egocentricity at the expense of social commitment, mysticism at the expense of naturalism, intuitionism at the expense of rationalism, atavism at the expense of civilization . . . and an enervating religiosity at the expense of critical (secularism)’ (1996: 19).

Although this is understandable given the way in which the humanist ideals of the Enlightenment have been warped and abused by the forces of patriarchy, fascism, corporate capitalism and imperialistic nation-states, nevertheless, Bookchin argues, an uncritical rejection of the Enlightenment’s valid achievements ultimately ends up ‘throwing out the baby with the bathwater’ (Chase 1991: 59). That reason has been reduced to an instrumental or industrial rationalism with its focus on efficiency; that science has promoted a mechanistic and quantitative approach to the natural world, still evident in systems theory; that technology has been used to exploit nature, including human nature – all these distortions have been the result of industrial capitalism. There is therefore no need to repudiate entirely the ideals of the Enlightenment, still less to

denigrate reason, science and technology (1989: 166–167).

Like Kropotkin and Mumford, Bookchin is critical with regard to many aspects of the Enlightenment tradition, specifically rejecting its utilitarian ethics (as well as those of Kant) and its mechanistic ideology (1982: 286). Unlike his critics, however, Bookchin recognizes that the Enlightenment thinkers left an ‘ambiguous legacy’ and so he approaches this tradition with a certain critical engagement. What he does not do is to reject this legacy wholesale and thus embrace an extreme form of neo-Romanticism – with its idealist metaphysics, its repudiation of science and reason, its negation of universal values and truths, its subjective and narcissistic individualism, its reactionary politics and its embrace of religious mysticism – in its various forms. These are, of course, only too evident in the neo-Romanticism of contemporary postmodernism, as well as among deep ecologists and anarcho-primitivists.

Critique of the Counter-Enlightenment

It is worth noting, of course, that Adorno and Horkheimer (1973), in their well-known study of the ‘dialectic’ of the Enlightenment, did not repudiate the ideals of the Enlightenment. Even at a time of deep pessimism for many scholars at the end of the Second World War, these critical theorists, like Bookchin, critiqued aspects of the Enlightenment in order to prepare the way for a ‘positive notion’ of the Enlightenment, which would release it from its entanglement with such notions as domination and the technological mastery of nature. They were thus convinced that ‘social freedom is inseparable from enlightened thought’ (1973: xiii).

Bookchin admits that this new ‘anti-Enlightenment’ mood, so pervasive in Western academic culture, deeply troubled him. For its anti-rational, parochial, anti-humanist, mystical and atavistic tendencies were, he felt, quite dangerous. They could easily lead to extreme political fanaticism, or to social quietism; certainly they were not conducive to building a radical social movement, one that aims to create a new ecological society (Chase 1991: 59–60).

What is particularly troubling to Bookchin about the anti-Enlightenment mood of the postmodernists is not only its extreme cultural relativism, denying any universal values, but that it repudiates in a radical fashion some of the key concepts of the Western organic tradition – history, reason, civilization and progress. In a dense but key discussion, Bookchin (1995a: 147–179) sought to

defend the integrity and importance of these key concepts, noting that postmodernists – the cultural relativists – invariably interpret them in the most absolutist and misleading fashion. For example, they deny the importance of epistemological ‘foundation’ in the pursuit of human knowledge, implying that this denotes a totalitarian outlook, as does the affirmation of ‘reason’. Any rational discussion that emphasizes the importance of *human* values is thus interpreted as a form of ‘tyranny’. In contrast, Bookchin affirms the need to establish basic principles in the pursuit of knowledge – ‘foundations’ – and notes that, despite claims to the contrary, postmodern relativists have their own hidden ‘foundations’ and metaphysics – usually a form of subjective or cultural idealism. Bookchin also affirms the importance of science as a form of knowledge, recognizing, like Aristotle, but unlike the positivists, that there are other ways of knowing (1995a: 151–157).

Bookchin does not dispute the importance of poetry, the emotions or intuition, and stresses the need to develop an ecological sensibility and consciousness that combines fancy with reason, imagination with logic, vision with technique: ‘Poetry and imagination must be integrated with science and technology, for we have evolved beyond an innocence that can be nourished exclusively by myths and dreams’ (1982: 20). Scientific knowledge must therefore allow for the ‘indiscipline’ of fancy, imagination and poetry. What Bookchin is against is not the emotions or intuitions in themselves, but their employment in attempting to understand the natural and social worlds, particularly in relation to politics, where they can be positively dangerous as the ‘irrational messages of fascism indicate’ (1999: 200–221; cf. Watson 1996: 50).

As he put it, ‘Irrationalism in politics is one of the major preconditions for fascism, given its “blood and soil” notions and beliefs in racial superiority’ (1999: 130). With regard to history, he suggests that the kind of scepticism advanced by postmodernism, that denies any meaning, rationality, coherence and continuity in history, tends to render discourse itself virtually impossible. History cannot be reduced to events, or even simply to ‘chronicles’. For history, as Bookchin interprets it, is ‘the rational content and continuity of events’, that are ‘grounded in humanity’s potentialities for freedom, selfconsciousness and co-operation’. History, then, is the ‘unfolding’ of these potentialities (1995a: 157–159). Bookchin, of course, does not deny the atrocities, the conflicts and the cruelties that are evident in the historical record, but the fact that people have exhibited an ‘explosive capacity to perpetrate the most appallingly evil acts’ does not in itself imply that human potentiality is constituted ‘to produce evil and a

nihilistic destructiveness' (1995a: 160).

What Bookchin does insist is that the very existence of irrationalism and evil in the world compels us to uphold clear universal criteria of what is 'good', and standards of rationality by which to judge such events as the horror of Auschwitz. A purely subjectivist or relativistic approach to ethics, as advocated by postmodern and positivist academics, is quite unable to establish universal ethical standards – as many critiques of subjectivism and relativism have shown (see e.g. Gellner 1973: 50–77; Bunge 1996: 338–342).

History, then, for Bookchin, is in great measure the development of humanity away from the Island of the Lotus Eaters (as depicted in Homer's *Odyssey*) into the innovative fullness of freedom and self-consciousness – this in spite of the setbacks, the atrocities and the regressions, for there has been no unilinear advance in human affairs (1995b: 238–239; for an important study in defence of history against its postmodern critics see Evans 1997).

Like Dubos, Bookchin interprets the concept 'civilization' (as distinct from the notion of specific human cultures) to depict the unity of social evolution, the coherent unfolding of human potentialities for freedom, selfconsciousness and co-operation. But again Bookchin recognizes that civilization is a mixed blessing, and that it too has an ambiguous legacy. He is certainly critical of many aspects of civilization, and as he describes in *The Ecology of Freedom*, especially in the chapter 'The Legacy of Domination', which deals with the rise of capitalism and the modern state (1982: 119– 139), 'the failures of civilization have been enormous and have claimed a ghastly toll in blood' (1999: 130). But Bookchin is adamant – as against pessimistic postmodernists and anarcho-primitivists – that civilization has its 'progressive' aspect. This he describes as the 'Legacy of Freedom', another chapter in *The Ecology of Freedom* (1982: 167–191). Among some of the progressive features of human civilization that Bookchin mentions is the overall improvement, however ambiguous, of humanity's material conditions of life, and the emergence of a rationalist form of ethics over that of unreflexive custom and the doctrinaire ethics of religious traditions. Though cognizant of the 'barbarities of our time', Bookchin suggests that 'we now subject brutality to much harsher judgements than was done in earlier times'. Though using the concept 'humanity' Bookchin was not unaware of the oppression and brutalities that are inflicted upon peoples in the developing world, notwithstanding Watson's rather churlish comments (1995a: 169; Watson 1996: 88).

Bookchin describes the Enlightenment as a ‘glorious project’, despite its flaws and limitations. The problem, he felt, is not that human beings are too civilized, implying that we should hark back to some primitivist Eden, but rather that humans ‘aren’t civilized enough’. For we have yet to create a society in which we can live peacefully and humanely. This could be done, Bookchin believes, only by building on the best of the Western intellectual heritage, specifically the cultural values of the Enlightenment, as well as drawing inspiration and ideas from the many radical and socialist movements that have throughout history expressed the ‘legacy of freedom’ (1999: 132–140). Bookchin certainly did not see anything progressive in the increasing technological mastery of nature or in the imperative of economic growth under capitalism (1999: 280).

In an important critique of postmodernism, which he recognizes as an extremely diverse and rather diffuse cultural movement, Bookchin emphasizes the important role that the German philosophers Friedrich Nietzsche and Martin Heidegger played in the emergence of this movement in France after the 1960s. Contrary to contemporary intellectual fashions, Bookchin has little time for either Nietzsche or Heidegger, both of whom he interprets as rather reactionary thinkers. Focusing on Nietzsche’s epistemology, Bookchin argues that his perspectivism is neither new nor original, both Aristotle and Hegel having a perspectival approach to the philosophical views that preceded their own. Embraced by many radicals, including Emma Goldman, Nietzsche’s philosophy, Bookchin suggests, though expressed with stylistic brilliance and fervent militancy, is altogether rather shallow and limiting. His misanthropy and denigration of humanity, his reduction of facts to interpretations, thus denying the possibility of objective knowledge and his depreciation of reason, all reverberate, Bookchin suggests, in a period of social reaction.

With regard to Heidegger, Bookchin contends that he is not only grossly over-rated as a thinker, but that he is one of the ‘most reactionary on the spectrum of *weltanschauung* thought’ (1995b: 186). Describing Heidegger as a ‘reactionary elitist’ Bookchin suggests that the wide embrace of Heideggarian metaphysics by contemporary scholars is a ‘disaster to serious reflection’ (1995b: 191). Bookchin thus comes to offer his critical thought on several of the more well-known scholars who have been described as ‘postmodernists’ and have to some degree been influenced by Nietzsche and Heidegger. These include: Michel Foucault, whose theory of power Bookchin describes as reductionist and ‘vacuously abstract’ (1995b: 183); Jacques Derrida, who has made inchoate thinking and verbal gymnastics into an art form; Gilles Deleuze and Felix

Guattari, who reduce humans to ‘desiring machines’, dissolve history and life forms into events, and with their metaphor of ‘rhizome’ make a virtue out of incoherence; and finally, Jean-François Lyotard and Jean Baudrillard, who tend to exhibit antipathy towards reason, objectivity and truth, and who proclaim an ‘arid nihilism’ (1995b: 200-201). Postmodernism is then, for Bookchin, the ideology par excellence of nihilism, fragmentation and relativism, and to the degree that the Enlightenment project has been abandoned, and the hope and belief in progress has been lost, so, he writes, a ‘disarming relativism, ahistoricism and ultimately nihilism replace any belief in the objectivity of truth, the reality of history, and the power of reason to change the world’ (1995c: 176).

Bookchin therefore concludes that postmodernism is the latest incarnation of the Romantic rejection of the Enlightenment, and inevitably leads to social quietism, disempowerment and a withdrawal into personal life, or even to reactionary politics. Postmodern scholars indeed make a virtue out of despair and the fragmentation of social life under global capitalism (1995b: 175, 1999: 132; see Bunge 1994 on the counter-Enlightenment in the social sciences).

Postmodern nihilism, as Bookchin describes it, expresses the disenchantment of ex-Marxist intellectuals, such as Foucault and Lyotard, after the failures of the Left and of ‘existing socialism’ in the wake of the revolutionary upheavals of 1968. Such disenchantment, Bookchin concludes, ‘provides an escape route for erstwhile “revolutionaries” to ensconce themselves in the academy, to embrace social democracy, or simply to turn to a vacuous nihilism that hardly constitutes a threat to the existing society’ (1995a: 153). Capitalism thus has no problem at all with postmodern academics and disenchanted leftists, or with deep ecologists and anarchoprimitivists, who, in varying degrees, peddle spiritual ecology (whether pantheism, neo-paganism or mysticism), irrationalism and epistemological and moral relativism, and who thus denigrate reason, science and humanity, and make a virtue of incoherence, nihilism, or with Baudrillard, political apathy (1999: 141–142).

As a response to deep ecology, academic postmodernism and anarchoprimitivism, Bookchin continues to affirm his own theory of social ecology. This implies the need to re-enchant humanity (as he puts it), to acknowledge and affirm humanity’s *potentiality* for ‘creating a rational, ecologically oriented, aesthetically exciting, and deeply humane world based on an ethics of complementarity and a society of sharing’ (1995b: 232). This he acknowledges is a utopian vision. It is also, he affirms, a coherent form of

naturalism.

To conclude Part 3 it might be useful to summarize some of the key aspects of Bookchin's social ecology.

Bookchin's Social Ecology

Philosophically, as indicated, social ecology stands firmly in the organismic tradition of Western philosophy. Beginning with Heraclitus, this tradition was clearly expressed in the writings of Aristotle, Diderot and Hegel, as well as in the critical theory of the Frankfurt School – specifically Marcuse, Adorno and Horkheimer, Bookchin being keenly receptive to their devastating critiques of logical positivism and the theological mysticism of Heidegger. This organismic philosophy critiques all forms of spiritualism or religious metaphysics, whether described as animism, polytheism, theism, pan(en)theism or mysticism. It equally rejects all idealist philosophy: Platonism, the subjective idealism of Kant, and Cartesian metaphysics with its dualistic and mechanistic worldview. But Bookchin is equally critical of all forms of monism, which essentially entail some form of reductionism; whether spiritual monism that dissolves organic and social life into a spiritual or cosmic 'oneness'; the textualism of postmodernism that tends to completely negate the material world (as does spiritual monism); or the reductive materialism expressed by sociobiologists or by those who advocate some form of physicalism – in which all social phenomena are reduced to biology or physics (1995a: 75, 119–120). Social ecology entails an 'ecological worldview', a form of evolutionary holism that Bookchin describes as 'dialectical naturalism'.

Socially, social ecology stands within the tradition of social anarchism or libertarian socialism, and is a revolutionary (not merely radical) doctrine. It has its roots, as Bookchin succinctly expresses it: 'in the profound ecoanarchistic analyses of a Peter Kropotkin, the radical economic insights of a Karl Marx, the emancipatory promise of the revolutionary enlightenment as articulated by the great encyclopedist Dennis Diderot, the *Enrage*'s of the French revolution, the revolutionary feminist ideals of a Louise Michel and Emma Goldman, the communitarian visions of Paul Goodman and E.A. Gutkind, and the various eco-revolutionary manifestoes of the early 1960s' (1987: 246).

Politically, Bookchin affirms that social ecology is a radical ecology movement that takes its stand with *all* emancipatory movements. These include the extra-parliamentary street movements of European cities; the emerging radical eco-

feminist movement (which Bookchin clearly distinguishes from spiritual eco-feminism); the left-wing tendencies within the 'green' movement; the new politics based on neighbourhood assemblies and on citizen's initiatives (Bookchin was a strident advocate of libertarian municipalism, even though Robert Graham (2004) has argued that this represents a deviation from his emphasis on direct democracy); the struggles of black Americans for freedom and equality; and, finally, anti-imperialist movements in the developing world, to the degree that these did not embrace Maoism, Statist politics and nationalistic agendas (1987: 246). The notion that Bookchin does not support struggles in the developing world and that social ecology needs to be moved along the 'anti-capitalist road' (Kovel 2002: 189) indicates a woeful misunderstanding of his entire political project. As a social anarchist he fervently opposes not only the state and all forms of hierarchy and domination, but also global capitalism.

Morally, social ecology is a form of humanism, in the Renaissance meaning of the term, *not* how it is defined by Ehrenfeld (1978) and by more recent advocates of religious dogmatism (e.g. Gray 2002), who misleadingly identify humanism with Cartesian (Christian) metaphysics and Baconian scientism, which views humans as completely separate from nature, and as having been given dominion over the earth. In contrast, Bookchin suggests that humanism from its inception 'has meant a shift in vision from the skies to the earth, from superstition to reason, from deities to people' (1987: 246) – for humans are no less products of natural evolution than are grizzly bears and whales. This means that Bookchin accepts neither anthropocentrism nor biocentrism, at least to the degree that these invoke misanthropy, or indeed any form of 'centricity', advocating instead an ethics of mutualism and complementarity that retain the naturalistic integrity of an authentic ecology. Bookchin, like Mumford and Dubos, thus expresses a form of ecological humanism.

Although often adjudged to be a rather dour, revolutionary socialist, steeped in Hegelian Marxism, it is important to realize that Bookchin was, in fact, like Kropotkin, to an important degree a *moral philosopher*. The kind of society he envisaged is thus an expression of an ethical socialism. Bookchin therefore stresses that the affirmation of an ethical stance is central to the recovery of a meaningful society and a sense of selfhood. Although like Spinoza, Adam Smith, Darwin and Kropotkin, Bookchin advocates a form of ethical naturalism, he recognizes that there is no simple or straightforward relationship between facts and values. As he writes, an ethics grounded in ecology can yield 'a salad of "natural laws"' that are as tyrannical in their conclusions as the chaos of moral

relativism' (1986a: 9). Thus although stressing the need for a deep sense of ethical commitment, as well as the need to 'ground' ethics in an understanding of natural evolution, what Bookchin advocates is an objective ethics that is 'neither absolutist nor relativist, authoritarian or chaotic, necessitarian nor arbitrary' (1986a: 11).

Criticisms by liberal scholars that Bookchin commits the 'naturalistic fallacy' (Eckersley 1989) – a positivist doctrine associated with Hume and Moore – are, of course, completely misplaced. For as many scholars have argued, the so-called naturalistic fallacy is itself a fallacy (Dennett 1995: 467; Morris 2004: 166–169).

Given nature's inherent fecundity, its thrust towards ever-increasing diversity, and its potentialities for freedom, consciousness and subjectivity, Bookchin suggests that such a perspective provides a basis for an 'ecological ethics' which sees 'the emergence of selfhood, reason and freedom from nature – not in sharp opposition to nature'. But in emphasizing that nature is a 'ground' for an ethics of freedom, Bookchin suggests that this does not entail any deterministic theory, such as the postulate of some inexorable 'natural laws'; for he stresses that social ecology is essentially a 'philosophy of potentiality' (1986a: 12–13). Social ecology he continually affirms is an 'organic' mode thought, and a truly evolutionary way of thinking about the world (1986a: 15).

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